



February 18, 2022

USEPA – New England
Attention: Mr. Justin Pimpare
5 Post Office Square – Suite 100
Boston, MA 02109-3912

Attn: Mr. Justin Pimpare, Regional Pre-treatment Coordinator

Department of Environmental Protection
M.D.W.P.C.
8 New Bond Street
Worcester, MA 01606

Attn: Mr. David Boyer

Re: City of Leominster Annual Report - Industrial Pretreatment January 1, 2021 – December 31, 2021
NPDES Permit # - MA0100617

Gentlemen:

Attached is the City of Leominster Industrial Pretreatment/Monitoring Program Annual Progress Report as required by the City's NPDES Permit.

If you should have any questions regarding this report, please contact me at (978) 537-5720.

Sincerely,

A handwritten signature in black ink, appearing to read "Robert Chalifoux", with a long horizontal stroke extending to the right.

Robert Chalifoux
Plant Manager

RC/kmf
Attachments as stated

cc: Jeffrey Stephens, City of Leominster
Mark Piermarini – City of Leominster
DEP- Division of Water Pollution Control, Boston, MA

CITY OF LEOMINSTER
DEPARTMENT OF PUBLIC HEALTH
INDUSTRIAL PRETREATMENT PROGRAM
ANNUAL REPORT
1/1/21- 12/31/21

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- A. Pretreatment Annual Report Summary
- B. Leominster influent and effluent sampling results, 6/2/21 Sample #8153B and 8153C samples from 6/2/21 sample #8154B and 8154C
- C. Laboratory reports for Leominster POTW sludge are kept on file at the Leominster WWTF.
- D. Acute and Chronic Toxicity summary sheets and DMR's.
- E. Local limits reassessment September 2014

#1 UPDATED LIST OF INDUSTRIAL USERS BY CATEGORY

PERMITTED SIU'S

NAME & ADDRESS

PERMIT TYPE

Claremont Flock/Spectro Coating Corp.
Scott Dr., Leominster

High Strength Industrial

KeySpan
36 Mill Street
Leominster

Possible Discharge of Oil and
Grease, Petroleum Hydrocarbons
and Metals

QG Printing Corp.
27 Nashua Street
Leominster

pH adjustment and possible discharge
of silver

CIU'S

There are currently no Categorical Industrial Users permitted to discharge process wastewater to the Leominster POTW.

GENERAL PRETREATMENT

<u>NAME</u>	<u>ADDRESS</u>	<u>TYPE OF BUSINESS</u>
Claremont Flock Corp./ Spectro Coating Corp.	Scott Drive Leominster, MA	Textile Finishing
KeySpan	Mill Street Leominster, MA	Ground Water Reclamation Facility
QG Printing Corp.	Nashua Street Leominster, MA	Commercial Lithographic Printing and Binding

Industrial Users subject to non-categorical standards (403) that were in non-compliance with the following:

Claremont Flock Corporation was in violation for exceeding the local limit for Zinc during self-monitoring in May of 2021.

*#2 COMPLIANCE AND ENFORCEMENT ACTIVITIES***INSPECTION AND MONITORING SUMMARY**

<u>Industry</u>	<u>Inspections</u>	<u>Sampled</u>
Clarmemont	Announced 8/31/21	Un-announced 9/1/21
Flock/Spectro	Un-announced 11/10/21	Un-announced 11/11/21
Coating Corp.		
KeySpan	UN-announced 6/22/21	Un-announced 6/23/21
	Announced 11/10/21	Announced 11/11/21
QG Printing Corp.	Announced 11/29/21	Announced 11/30/21
	Un-announced 12/20/21	Un-announced 12/21/21

Spectro Coating Corporation no longer discharges directly to the sewer system. All industrial wastewater generated at Spectro is pumped to the Claremont Flock pre-treatment system. Spectro Coating is still inspected twice per year to verify all wastewater is going to Claremont for treatment.

WRITTEN NOTICES OF VIOLATION ISSUED

Notice of Violations to Claremont Flock Corporation for exceeding local limit for Zinc. Claremont is currently in compliance for Zinc.

COMPLIANCE SCHEDULES ISSUED

None

ADMINISTRATIVE ORDERS ISSUED

None

CRIMINAL OR CIVIL SUITS FILED

None

PENALTIES OBTAINED

None

#3 LIST OF SIGNIFICANT NONCOMPLYING INDUSTRIES

The following is a list of industries required to be published in the local newspaper in accordance with 40 CFR 403.8 (f) (2) (vii):

There were no industries required to publish in the local newspaper for significant noncompliance.

#4 NARRATIVE OF PROGRAM EFFECTIVENESS

The Industrial Pretreatment Program has been successful in eliminating pass-through and interferences and no SIU's were found to be in significant Non Compliance during the Annual Report year.

#5 POTW ANALYTICAL POLLUTANT RESULTS

The following summaries were compiled using the results from the annual 129 priority pollutant scan on Leominster's sludge, bimonthly metals analysis for sludge and annual influent and effluent metals analysis.

INFLUENT POLLUTANT SUMMARY AND LEOMINSTER WWTF
ALLOWABLE INFLUENT CONCENTRATIONS FOR INTERFERENCE CRITERIA-
ACTIVATED SLUDGE PROCESS

<u>POLLUTANT</u>	<u>1) INHIBITION THRESHOLD mg/l</u>	<u>2) INFLUENT CONCENTRATION mg/l</u>
Arsenic	0.1	<0.010
Cadmium	1.0	<0.0040
Chromium	1.0	<0.010
Copper	1.0	0.042
Lead	0.1	0.027
Mercury	0.1	<0.00010
Nickel	1.0	<0.010
Silver	0.25	<0.010
Zinc	0.3	0.070
Total Cyanide	0.1	<0.010

- 1) Data from "Guidance Manual on the Development and Implementation of Local Discharge Limitations Under Pretreatment Program", USEPA, December 1987, p. 3-44.
- 2) Sample results from a flow proportional 24-hour composite and grab samples taken on Leominster POTW influent 6/2/21. Complete lab report attached. Sample # 8153B and 8153C.

NR – Not Run

*SUMMARY OF EFFLUENT SAMPLING RESULTS
VERSUS WATER QUALITY STANDARDS*

<u>POLLUTANT</u>	1) WATER QUALITY CRITERIA <u>ug/l</u>	2) EFFLUENT CONCENTRATION <u>ug/l</u>	3) EFFLUENT FLOW ADJUSTED <u>ug/l</u>
Arsenic	190	<10	2.90
Cadmium	1.1	<4	1.16
Chromium	11	<10	2.90
Copper	12	<10	2.90
Lead	3.2	<10	2.90
Mercury	.012	<0.1	0.029
Nickel	160	<10	2.90
Silver	.12	<10	2.90
Zinc	110	<10	2.90
Total Cyanide	5.2	<10	2.90

1) Data from "Guidance Manual on Development and Implementation of Local Discharge Limitations Under the Pretreatment Program", USEPA December 1987, p. 3-39. Water Quality Criteria adjusted for North Nashua River hardness of 50 mg/l as CaCo₃.

2) Sample results from flow-proportional 24-hour composite and grab samples taken on Leominster POTW effluent 6/2/21. Complete lab report attached, sample #8154B and #8154C.

3) Flow Adjustment - $\frac{7Q_{10}}{22.88 \text{ MGD} + 9.3 \text{ MGD}} = .29$

9.3 MGD
Design Flow

* Effluent concentration flow adjustment using level of detection.

NR = Not Run

*SUMMARY OF POLLUTANT ANALYTICAL RESULTS
FOR LEOMINSTER POTW SLUDGE*

Pollutant	mg/kg 1/6/21	mg/kg 3/8/21	mg/kg 5/6/21	mg/kg 7/8/21	mg/kg 9/2/21	mg/kg 11/4/21
Antimony			<37			
Arsenic	<58	<87	<74	<87	<43	<41
Beryllium	<2.9	<4.4	<3.7	<4.3	<2.5	<2.0
Cadmium	<5.8	<8.7	<7.4	<8.7	<4.9	<4.1
Chromium	28	22	37	40	32	46
Copper	250	210	250	280	210	370
Lead	16	<13	13	<13	15	20
Mercury	<0.74	<0.68	<0.56	<0.71	<0.41	<0.43
Nickel	<16	<17	<15	<17	<9.8	14
Selenium			<74			
Silver			<7.4			
Thallium			<37			
Zinc			340		300	
Cyanide	<8.9	<670	<11	<11	<6.1	<5.6
%TS	5.52	3.69	4.51	3.72	7.46	7.75
Acetone			<130			
2-Butanone (MEK)			<53			
1,4 - Dichlorobenzene			<2.6			
1,1 - Dichloroethylene			<2.6			
p-Isopropyltoluene			<2.6			
Naphthalene			<5.3			
N-Propylbenzene			<2.6			
Toluene			37			
1,2,4 - Trimethylbenzene			<2.6			
1,3,5 - Trumethylbensene			<2.6			
M + P Xylene			<5.3			
O-Xylene			<2.6			
Total Phenols			<7.5			
Chloroform			<5.3			
Cis-1,2-Dichloroethylene			<2.6			
MTBE			<2.6			
Tetrachloroethylene			<2.6			
Bis(2-ethylhexy)phthalate			8.6			
4,4-DDE			<0.86			
4,4 DDT			<0.56			
3/4 Methylphenol			700			
Methlyl Acetate			43			
Molybleum			<87			
Methylene chloride			<15			
Barium						
Sulfur						
Aluminum					5700	
Free Liquids						

All laboratory reports are on file at the Leominster WWTP.

*SUMMARY OF QUARTERLY ACUTE AND CHRONIC TOXICITY TESTING
OF THE LEOMINSTER POTW EFFLUENT*

	Result	Permit Limit
1st Quarter, 2021		
LC50 48-hr Acute - Ceriodaphnia	>100%	100%
NOEL 7 day Chronic - Ceriodaphnia	100%	43.5%
2nd Quarter, 2021		
LC50 48-hr Acute - Ceriodaphnia	>100%	100%
NOEL 7-day Chronic - Ceriodaphnia	100%	43.5%
3rd Quarter, 2021		
LC50 48-hr Acute - Ceriodaphnia	>100%	100%
NOEL 7-day Chronic - Ceriodaphnia	100%	43.5%
4th Quarter, 2021		
LC50 48-hr Acute - Ceriodaphnia	>100%	100%
NOEL 7-day Chronic - Ceriodaphnia	100%	43.5%

Copies of summary sheets and DMR's are attached.

*SUMMARY OF COPPER RESULTS FOR INFLUENT AND EFFLUENT
WITH PLANT PERCENT REMOVALS*

Date	Influent Flow MGD	Influent Cu ug/l	Influent Cu lbs/d	Effluent Cu ug/l	Plant % Removals	Effluent Cu lb/d
1/06/21	8.62	44.0	3.16	17.0	61.4%	1.22
2/03/21	5.25	41.0	1.80	10.0	75.6%	0.44
3/04/21	7.45	42.0	2.24	36.0	15.1%	2.63
3/10/21	6.65	NR	NR	8.2		0.45
4/07/21	6.68	41.0	2.28	10.0	75.6%	0.56
5/05/21	10.75	34.0	3.05	10.0	70.6%	0.90
6/02/21	7.08	42.0	3.48	10.0	76.2%	0.59
6/09/21	5.76	NR	NR	12.2		0.59
7/07/21	7.17	39.0	2.33	10.0	74.4%	0.60
8/04/21	5.01	48.0	2.01	10.0	79.2%	0.42
9/01/21	12.02	56.0	5.61	10.0	82.1%	1.00
9/08/21	7.45	NR	NR	8.0		0.50
10/6/21	8.92	39.0	2.90	10.0	74.4%	0.74
11/3/21	9.26	41.0	3.17	10.0	75.6%	0.77
12/1/21	5.87	46.0	2.25	10.0	78.3%	0.49
12/15/21	6.43	NR	NR	11.1		0.60
Average	6.87	43.1	2.91	13.14	66.8%	0.86
Minimum	4.60	34.0	1.80	8.00	15.1%	0.42
Maximum	13.80	56.0	5.61	36.0	82.1%	2.63

NR - Not run

NPDES Permit limits; 50.3 ug/l Daily Max, 32.3 ug/l Monthly Average

#6 DESCRIPTION OF INTERFERENCE AND PASS-THROUGH

There were no instances of Interference or Pass-through during the Annual Report year from permitted industrial users in the City of Leominster.

#7 INVESTIGATIONS INTO INTERFERENCE AND PASS-THROUGH

During the annual report year, the Leominster Facility experienced no interference or pass-through related to industrial discharges.

Also, there were no permit violations during the Annual report year.

#8 MONITORING TO DETECT INTERFERENCE AND PASS-THROUGH

We continue the monitoring of copper in our influent. After several years we could detect no increase of copper loading to the POTW. There were no instances of interference or pass-through during the annual report year.

#9 ACTIONS TO REDUCE SIGNIFICANT VIOLATIONS

Overall industrial compliance with program requirements continues to be good, with no industries found to be in SNC. Compliance has been accomplished, in part, by continuing to meet with industrial user representatives and explaining their responsibilities in the program to eliminate confusion, i.e. monitoring and reporting requirements. The City is committed to minimizing industrial user violations and incidents of SNC by our permitted industrial users.

#10 LOCAL LIMITS

Local Limit calculations with lab analysis data was submitted to Mr. John G. Stoecker, Municipal Evaluation Section, USEPA Region I, on July 31, 1992. This was in accordance with the EPA Compliance Order dated August 22, 1991 (Docket No. 91-26). The Order was closed out on October 20, 1993. The revised Ordinance and Local Limits went into effect in November 1993. The last local limit reassessment was performed and submitted to Region I on September 19, 2014. Attached

ATTACHMENT A

PRETREATMENT ANNUAL REPORT SUMMARY

EPA Region 1 Annual Pretreatment Report Summary Sheet

February 2022

POTW Name:	Leominster WPCF	
NPDES Permit	MA0100617	
Pretreatment Report Period Start Date:	1/1/2021	
Pretreatment Report Period End Date:	12/31/2021	
# of Significant Industrial Users (SIUs):	3	
# of SIUs Without Control Mechanisms:	0	
# of SIUs not Inspected:	0	
# of SIUs not Sampled:	0	
# of SIUs in Significant Noncompliance (SNC) with Pretreatment Standards:	0	
# of SIUs in SNC with Reporting Requirements:	0	
# of SIUs in SNC with Pretreatment Compliance Schedule:	0	
# of SIUs in SNC Published in Newspaper:	0	
# of SIUs with Compliance Schedules:	0	
# of Violation Notices Issued to SIUs:	1	
# of Administrative Orders Issued to SIUs:	0	
# of Civil Suits Filed Against SIUs:	0	
# of Criminal Suits Filed Against SIUs:	0	
# of Categorical Industrial Users (CIUs):	0	
# of CIUs in SNC:	0	
<u>Penalties</u>		
Total Dollar Amount of Penalties Collected	\$ 0	
# of IUs from which Penalties have been collected:	0	

Local Limits

Date of Most Recent Technical
Evaluation of Local Limits:

September 2014

Date of Most Recent Adoption of
Technically Based Local Limits:

November 1993

Pollutant	Limit (mg/l)	MAHL (lb/day)
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Attached is the most recent local limits assessment conducted in 2014.

Attachment E

ATTACHMENT B

LEOMINSTER INFLUENT AND EFFLUENT SAMPLING RESULTS

6/1/21 and 6/2/21

SAMPLE # 8153B, 8153C, 8154B and 8154C


June 11, 2021

Robert Chalifoux
Veolia Water - Leominster
436 Mechanic Street
Leominster, MA 01453

Project Location: Leominster, MA
Client Job Number:
Project Number: 11764
Laboratory Work Order Number: 21F0147

Enclosed are results of analyses for samples received by the laboratory on June 3, 2021. If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Kaitlyn A. Feliciano
Project Manager

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Veolia Water - Leominster
 436 Mechanic Street
 Leominster, MA 01453
 ATTN: Robert Chalifoux

REPORT DATE: 6/11/2021

PURCHASE ORDER NUMBER:

PROJECT NUMBER: 11764

ANALYTICAL SUMMARY

WORK ORDER NUMBER: 21F0147

The results of analyses performed on the following samples submitted to CON-TEST, a Pace Analytical Laboratory, are found in this report.

PROJECT LOCATION: Leominster, MA

FIELD SAMPLE #	LAB ID:	MATRIX	SAMPLE DESCRIPTION	TEST	SUB LAB
8149 Inf	21F0147-01	Waste Water		SM19-22 4500 NH3 C	
8150 Eff	21F0147-02	Waste Water		SM19-22 4500 NH3 C	
8151 Inf	21F0147-03	Waste Water		SM 21-22 4500 P E	
8152 Eff	21F0147-04	Waste Water		SM 21-22 4500 P E	
8153 A Inf	21F0147-05	Waste Water		SM19-22 4500 NH3 C	
8153 B Inf	21F0147-06	Waste Water		EPA 200.7	
				EPA 245.1	
8153 C Inf	21F0147-07	Waste Water		SM21-22 4500 CN E	
8154 A Eff	21F0147-08	Waste Water		SM19-22 4500 NH3 C	
8154 B Eff	21F0147-09	Waste Water		EPA 200.7	
				EPA 245.1	
8154 C Eff	21F0147-10	Waste Water		SM21-22 4500 CN E	
A NoTown Lagoon	21F0147-11	Waste Water		EPA 200.7	
C NoTown Upstream from Lagoon	21F0147-12	Waste Water		EPA 200.7	
8155 Inf	21F0147-13	Waste Water		SM 21-22 4500 P E	
8156 Eff	21F0147-14	Waste Water		SM 21-22 4500 P E	

CASE NARRATIVE SUMMARY

All reported results are within defined laboratory quality control objectives unless listed below or otherwise qualified in this report.

SM21-22 4500 CN E**Qualifications:****R-06**

Matrix spike duplicate RPD is outside of control limits. Reduced precision is anticipated for reported result for this compound in this sample.

Analyte & Samples(s) Qualified:**Cyanide****B283446-MSD1**

The results of analyses reported only relate to samples submitted to Con-Test, a Pace Analytical Laboratory, for testing.

I certify that the analyses listed above, unless specifically listed as subcontracted, if any, were performed under my direction according to the approved methodologies listed in this document, and that based upon my inquiry of those individuals immediately responsible for obtaining the information, the material contained in this report is, to the best of my knowledge and belief, accurate and complete.



Lisa A. Worthington
Technical Representative

Project Location: Leominster, MA

Sample Description:

Work Order: 21F0147

Date Received: 6/3/2021

Field Sample #: 8149 Inf

Sample ID: 21F0147-01

Start Date/Time: 5/30/2021 11:49:00AM

Sample Matrix: Waste Water

Stop Date/Time: 5/31/2021 11:29:00AM

Conventional Chemistry Parameters by EPA/APHA/SW-846 Methods (Total)

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Ammonia as N	11	0.30	mg/L	1		SM19-22 4500 NH3 C	6/4/21	6/5/21 9:00	AYK

Project Location: Leominster, MA

Sample Description:

Work Order: 21F0147

Date Received: 6/3/2021

Field Sample #: 8150 Eff

Sample ID: 21F0147-02

Start Date/Time: 5/30/2021 2:10:00PM

Sample Matrix: Waste Water

Stop Date/Time: 5/31/2021 1:35:00PM

Conventional Chemistry Parameters by EPA/APHA/SW-846 Methods (Total)

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Ammonia as N	ND	0.30	mg/L	1		SM19-22 4500 NH3 C	6/4/21	6/5/21 9:00	AYK

Project Location: Leominster, MA

Sample Description:

Work Order: 21F0147

Date Received: 6/3/2021

Field Sample #: 8151 Inf

Sample ID: 21F0147-03

Start Date/Time: 5/31/2021 1:29:00PM

Sample Matrix: Waste Water

Stop Date/Time: 6/1/2021 8:34:00AM

Conventional Chemistry Parameters by EPA/APHA/SW-846 Methods (Total)

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Phosphorus, Total	1.4	0.50	mg/L	10		SM 21-22 4500 P E	6/8/21	6/9/21 11:50	EC

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Leominster, MA

Sample Description:

Work Order: 21F0147

Date Received: 6/3/2021

Field Sample #: 8152 Eff

Sample ID: 21F0147-04

Start Date/Time: 5/31/2021 1:35:00PM

Sample Matrix: Waste Water

Stop Date/Time: 6/1/2021 8:40:00AM

Conventional Chemistry Parameters by EPA/APHA/SW-846 Methods (Total)

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Phosphorus, Total	ND	0.050	mg/L	1		SM 21-22 4500 P E	6/8/21	6/9/21 11:50	EC

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Leominster, MA

Sample Description:

Work Order: 21F0147

Date Received: 6/3/2021

Field Sample #: 8153 A Inf

Sample ID: 21F0147-05

Start Date/Time: 6/1/2021 8:34:00AM

Sample Matrix: Waste Water

Stop Date/Time: 6/2/2021 8:29:00AM

Conventional Chemistry Parameters by EPA/APHA/SW-846 Methods (Total)

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Ammonia as N	12	0.30	mg/L	1		SM19-22 4500 NH3 C	6/4/21	6/5/21 9:00	AYK

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Leominster, MA

Sample Description:

Work Order: 21F0147

Date Received: 6/3/2021

Field Sample #: 8153 B Inf

Sample ID: 21F0147-06

Start Date/Time: 6/1/2021 8:34:00AM

Sample Matrix: Waste Water

Stop Date/Time: 6/2/2021 8:29:00AM

Metals Analyses (Total)

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Arsenic	ND	0.010	mg/L	1		EPA 200.7	6/4/21	6/7/21 19:34	AJL
Cadmium	ND	0.0040	mg/L	1		EPA 200.7	6/4/21	6/7/21 19:34	AJL
Chromium	ND	0.010	mg/L	1		EPA 200.7	6/4/21	6/7/21 19:34	AJL
Copper	0.042	0.010	mg/L	1		EPA 200.7	6/4/21	6/7/21 19:34	AJL
Lead	0.027	0.010	mg/L	1		EPA 200.7	6/4/21	6/7/21 19:34	AJL
Mercury	ND	0.00010	mg/L	1		EPA 245.1	6/7/21	6/7/21 14:50	CJV
Nickel	ND	0.010	mg/L	1		EPA 200.7	6/4/21	6/7/21 19:34	AJL
Silver	ND	0.010	mg/L	1		EPA 200.7	6/4/21	6/7/21 19:34	AJL
Zinc	0.070	0.010	mg/L	1		EPA 200.7	6/4/21	6/7/21 19:34	AJL

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Leominster, MA

Sample Description:

Work Order: 21F0147

Date Received: 6/3/2021

Field Sample #: 8153 C Inf

Sample ID: 21F0147-07

Start Date/Time: 6/1/2021 8:34:00AM

Sample Matrix: Waste Water

Stop Date/Time: 6/2/2021 8:29:00AM

Conventional Chemistry Parameters by EPA/APHA/SW-846 Methods (Total)

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Cyanide	ND	0.010	mg/L	1		SM21-22 4500 CN E	6/7/21	6/8/21 9:16	YR

Project Location: Leominster, MA

Sample Description:

Work Order: 21F0147

Date Received: 6/3/2021

Field Sample #: 8154 A Eff

Sample ID: 21F0147-08

Start Date/Time: 6/1/2021 8:40:00AM

Sample Matrix: Waste Water

Stop Date/Time: 6/2/2021 9:43:00AM

Conventional Chemistry Parameters by EPA/APHA/SW-846 Methods (Total)

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Ammonia as N	ND	0.30	mg/L	1		SM19-22 4500 NH3 C	6/4/21	6/5/21 9:00	AYK

Project Location: Leominster, MA

Sample Description:

Work Order: 21F0147

Date Received: 6/3/2021

Field Sample #: 8154 B Eff

Sample ID: 21F0147-09

Start Date/Time: 6/1/2021 8:40:00AM

Sample Matrix: Waste Water

Stop Date/Time: 6/2/2021 9:43:00AM

Metals Analyses (Total)

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Arsenic	ND	0.010	mg/L	1		EPA 200.7	6/4/21	6/7/21 19:41	AJL
Cadmium	ND	0.0040	mg/L	1		EPA 200.7	6/4/21	6/7/21 19:41	AJL
Chromium	ND	0.010	mg/L	1		EPA 200.7	6/4/21	6/7/21 19:41	AJL
Copper	ND	0.010	mg/L	1		EPA 200.7	6/4/21	6/7/21 19:41	AJL
Lead	ND	0.010	mg/L	1		EPA 200.7	6/4/21	6/7/21 19:41	AJL
Mercury	ND	0.00010	mg/L	1		EPA 245.1	6/7/21	6/7/21 14:52	CJV
Nickel	ND	0.010	mg/L	1		EPA 200.7	6/4/21	6/7/21 19:41	AJL
Silver	ND	0.010	mg/L	1		EPA 200.7	6/4/21	6/7/21 19:41	AJL
Zinc	ND	0.010	mg/L	1		EPA 200.7	6/4/21	6/7/21 19:41	AJL

Project Location: Leominster, MA

Sample Description:

Work Order: 21F0147

Date Received: 6/3/2021

Field Sample #: 8154 C Eff

Sample ID: 21F0147-10

Start Date/Time: 6/1/2021 8:40:00AM

Sample Matrix: Waste Water

Stop Date/Time: 6/2/2021 9:43:00AM

Conventional Chemistry Parameters by EPA/APHA/SW-846 Methods (Total)

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Cyanide	ND	0.010	mg/L	1		SM21-22 4500 CN E	6/7/21	6/8/21 9:16	YR

Project Location: Leominster, MA

Sample Description:

Work Order: 21F0147

Date Received: 6/3/2021

Field Sample #: A NoTown Lagoon

Sampled: 6/2/2021 12:30

Sample ID: 21F0147-11

Sample Matrix: Waste Water

Metals Analyses (Total)

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aluminum	0.16	0.050	mg/L	1		EPA 200.7	6/4/21	6/8/21 13:21	AJL

Project Location: Leominster, MA

Sample Description:

Work Order: 21F0147

Date Received: 6/3/2021

Field Sample #: C NoTown Upstream from Lagoon

Sampled: 6/2/2021 12:30

Sample ID: 21F0147-12

Sample Matrix: Waste Water

Metals Analyses (Total)

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aluminum	0.13	0.050	mg/L	1		EPA 200.7	6/4/21	6/8/21 13:26	AJL

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Leominster, MA

Sample Description:

Work Order: 21F0147

Date Received: 6/3/2021

Field Sample #: 8155 Inf

Sample ID: 21F0147-13

Start Date/Time: 6/2/2021 8:40:00AM

Sample Matrix: Waste Water

Stop Date/Time: 6/3/2021 8:26:00AM

Conventional Chemistry Parameters by EPA/APHA/SW-846 Methods (Total)

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Phosphorus, Total	2.2	0.50	mg/L	10		SM 21-22 4500 P E	6/8/21	6/9/21 11:50	EC

Project Location: Leominster, MA

Sample Description:

Work Order: 21F0147

Date Received: 6/3/2021

Field Sample #: 8156 Eff

Sample ID: 21F0147-14

Start Date/Time: 6/2/2021 9:43:00AM

Sample Matrix: Waste Water

Stop Date/Time: 6/3/2021 8:33:00AM

Conventional Chemistry Parameters by EPA/APHA/SW-846 Methods (Total)

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Phosphorus, Total	ND	0.050	mg/L	1		SM 21-22 4500 P E	6/8/21	6/9/21 11:50	EC

Sample Extraction Data

Prep Method: EPA 200.7 Analytical Method: EPA 200.7

Lab Number [Field ID]	Batch	Initial [mL]	Final [mL]	Date
21F0147-06 [8153 B Inf]	B283326	50.0	50.0	06/04/21
21F0147-09 [8154 B Eff]	B283326	50.0	50.0	06/04/21
21F0147-11 [A NoTown Lagoon]	B283326	50.0	50.0	06/04/21
21F0147-12 [C NoTown Upstream from Lagoon]	B283326	50.0	50.0	06/04/21

Prep Method: EPA 245.1 Analytical Method: EPA 245.1

Lab Number [Field ID]	Batch	Initial [mL]	Final [mL]	Date
21F0147-06 [8153 B Inf]	B283463	6.00	6.00	06/07/21
21F0147-09 [8154 B Eff]	B283463	6.00	6.00	06/07/21

SM 21-22 4500 P E

Lab Number [Field ID]	Batch	Initial [mL]	Final [mL]	Date
21F0147-03 [8151 Inf]	B283518	50.0	50.0	06/08/21
21F0147-04 [8152 Eff]	B283518	50.0	50.0	06/08/21
21F0147-13 [8155 Inf]	B283518	50.0	50.0	06/08/21
21F0147-14 [8156 Eff]	B283518	50.0	50.0	06/08/21

SM19-22 4500 NH3 C

Lab Number [Field ID]	Batch	Initial [mL]	Final [mL]	Date
21F0147-01 [8149 Inf]	B283388	100	100	06/04/21
21F0147-02 [8150 Eff]	B283388	100	100	06/04/21
21F0147-05 [8153 A Inf]	B283388	100	100	06/04/21
21F0147-08 [8154 A Eff]	B283388	100	100	06/04/21

SM21-22 4500 CN E

Lab Number [Field ID]	Batch	Initial [mL]	Final [mL]	Date
21F0147-07 [8153 C Inf]	B283446	50.0	50.0	06/07/21
21F0147-10 [8154 C Eff]	B283446	50.0	50.0	06/07/21

QUALITY CONTROL

Metals Analyses (Total) - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch B283326 - EPA 200.7

Blank (B283326-BLK1)

Prepared: 06/04/21 Analyzed: 06/07/21

Aluminum	ND	0.050	mg/L
Arsenic	ND	0.010	mg/L
Cadmium	ND	0.0040	mg/L
Chromium	ND	0.010	mg/L
Copper	ND	0.010	mg/L
Lead	ND	0.010	mg/L
Nickel	ND	0.010	mg/L
Silver	ND	0.010	mg/L
Zinc	ND	0.010	mg/L

LCS (B283326-BS1)

Prepared: 06/04/21 Analyzed: 06/07/21

Aluminum	0.492	0.050	mg/L	0.500	98.4	85-115
Arsenic	0.475	0.010	mg/L	0.500	95.0	85-115
Cadmium	0.479	0.0040	mg/L	0.500	95.9	85-115
Chromium	0.489	0.010	mg/L	0.500	97.8	85-115
Copper	0.986	0.010	mg/L	1.00	98.6	85-115
Lead	0.503	0.010	mg/L	0.500	101	85-115
Nickel	0.500	0.010	mg/L	0.500	100	85-115
Silver	0.526	0.010	mg/L	0.500	105	85-115
Zinc	0.970	0.010	mg/L	1.00	97.0	85-115

LCS Dup (B283326-BS1)

Prepared: 06/04/21 Analyzed: 06/07/21

Aluminum	0.499	0.050	mg/L	0.500	99.7	85-115	1.30	20
Arsenic	0.478	0.010	mg/L	0.500	95.5	85-115	0.528	20
Cadmium	0.482	0.0040	mg/L	0.500	96.4	85-115	0.605	20
Chromium	0.491	0.010	mg/L	0.500	98.2	85-115	0.347	20
Copper	0.992	0.010	mg/L	1.00	99.2	85-115	0.608	20
Lead	0.501	0.010	mg/L	0.500	100	85-115	0.412	20
Nickel	0.502	0.010	mg/L	0.500	100	85-115	0.375	20
Silver	0.513	0.010	mg/L	0.500	103	85-115	2.45	20
Zinc	0.973	0.010	mg/L	1.00	97.3	85-115	0.294	20

Batch B283463 - EPA 245.1

Blank (B283463-BLK1)

Prepared & Analyzed: 06/07/21

Mercury	ND	0.00010	mg/L
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LCS (B283463-BS1)

Prepared & Analyzed: 06/07/21

Mercury	0.00385	0.00010	mg/L	0.00400	96.2	85-115
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LCS Dup (B283463-BS1)

Prepared & Analyzed: 06/07/21

Mercury	0.00376	0.00010	mg/L	0.00400	94.1	85-115	2.20	20
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QUALITY CONTROL

Conventional Chemistry Parameters by EPA/APH/SAW-846 Methods (Total) - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B283388 - SM19-22 4500 NH3 C										
Blank (B283388-BLK1)				Prepared: 06/04/21 Analyzed: 06/05/21						
Ammonia as N	ND	0.30	mg/L							
LCS (B283388-BS1)				Prepared: 06/04/21 Analyzed: 06/05/21						
Ammonia as N	5.0	0.30	mg/L	5.00		101	86.2-110			
LCS Dup (B283388-BSD1)				Prepared: 06/04/21 Analyzed: 06/05/21						
Ammonia as N	5.0	0.30	mg/L	5.00		101	86.2-110	0.00	10	
Batch B283446 - SM21-22 4500 CN E										
Blank (B283446-BLK1)				Prepared: 06/07/21 Analyzed: 06/08/21						
Cyanide	ND	0.010	mg/L							
LCS (B283446-BS1)				Prepared: 06/07/21 Analyzed: 06/08/21						
Cyanide	0.56	0.020	mg/L	0.644		87.7	77.6-115			
LCS Dup (B283446-BSD1)				Prepared: 06/07/21 Analyzed: 06/08/21						
Cyanide	0.58	0.020	mg/L	0.644		89.8	77.6-115	2.39	8.69	
Matrix Spike (B283446-MS1)		Source: 21F0147-10		Prepared: 06/07/21 Analyzed: 06/08/21						
Cyanide	0.33	0.010	mg/L	0.334	ND	97.4	58.3-128			
Matrix Spike Dup (B283446-MSD1)		Source: 21F0147-10		Prepared: 06/07/21 Analyzed: 06/08/21						
Cyanide	0.29	0.010	mg/L	0.334	ND	85.4	58.3-128	13.2 *	8.87	R-06
Reference (B283446-SRM1)				Prepared: 06/07/21 Analyzed: 06/08/21						
Cyanide	0.368	0.010	mg/L	0.322		114	0-200			
Batch B283518 - SM 21-22 4500 P E										
Blank (B283518-BLK1)				Prepared: 06/08/21 Analyzed: 06/09/21						
Phosphorus, Total	ND	0.050	mg/L							
LCS (B283518-BS1)				Prepared: 06/08/21 Analyzed: 06/09/21						
Phosphorus, Total	0.17	0.050	mg/L	0.167		104	76.5-122			
LCS Dup (B283518-BSD1)				Prepared: 06/08/21 Analyzed: 06/09/21						
Phosphorus, Total	0.17	0.050	mg/L	0.167		103	76.5-122	1.10	12.6	

FLAG/QUALIFIER SUMMARY

*	QC result is outside of established limits.
†	Wide recovery limits established for difficult compound.
‡	Wide RPD limits established for difficult compound.
#	Data exceeded client recommended or regulatory level
ND	Not Detected
RL	Reporting Limit is at the level of quantitation (LOQ)
DL	Detection Limit is the lower limit of detection determined by the MDL study
MCL	Maximum Contaminant Level
	Percent recoveries and relative percent differences (RPDs) are determined by the software using values in the calculation which have not been rounded.
	No results have been blank subtracted unless specified in the case narrative section.
R-06	Matrix spike duplicate RPD is outside of control limits. Reduced precision is anticipated for reported result for this compound in this sample.

CERTIFICATIONS
Certified Analyses included in this Report

Analyte	Certifications
EPA 200.7 in Water	
Aluminum	CT,NY,MA,NH,RI,NC,ME,VA
Arsenic	CT,MA,NH,NY,RI,NC,ME,VA
Cadmium	CT,MA,NH,NY,RI,NC,ME,VA
Chromium	CT,MA,NH,NY,RI,NC,ME,VA
Copper	CT,MA,NH,NY,RI,NC,ME,VA
Lead	CT,MA,NH,NY,RI,NC,ME,VA
Nickel	CT,MA,NH,NY,RI,NC,ME,VA
Silver	CT,MA,NH,NY,RI,NC,ME,VA
Zinc	CT,MA,NH,NY,RI,NC,ME,VA
EPA 245.1 in Water	
Mercury	CT,MA,NH,RI,NY,NC,ME,VA
SM 21-22 4500 P E in Water	
Phosphorus, Total	CT,MA,NH,NY,RI,NC,ME,VA
SM19-22 4500 NH3 C in Water	
Ammonia as N	NY,MA,CT,RI,VA,NC,ME
SM21-22 4500 CN E in Water	
Cyanide	CT,MA,NH,NY,RI,NC,ME,VA

Con-Test, a Pace Environmental Laboratory, operates under the following certifications and accreditations:

Code	Description	Number	Expires
AIHA	AIHA-LAP, LLC - ISO17025:2017	100033	03/1/2022
MA	Massachusetts DEP	M-MA100	06/30/2022
CT	Connecticut Department of Public Health	PH-0165	12/31/2022
NY	New York State Department of Health	10899 NELAP	04/1/2022
NH-S	New Hampshire Environmental Lab	2516 NELAP	02/5/2022
RI	Rhode Island Department of Health	LAO00112	12/30/2021
NC	North Carolina Div. of Water Quality	652	12/31/2021
NJ	New Jersey DEP	MA007 NELAP	06/30/2021
FL	Florida Department of Health	E871027 NELAP	06/30/2021
VT	Vermont Department of Health Lead Laboratory	LL720741	07/30/2022
ME	State of Maine	MA00100	06/9/2023
VA	Commonwealth of Virginia	460217	12/14/2021
NH-P	New Hampshire Environmental Lab	2557 NELAP	09/6/2021
VT-DW	Vermont Department of Health Drinking Water	VT-255716	06/12/2021
NC-DW	North Carolina Department of Health	25703	07/31/2021
PA	Commonwealth of Pennsylvania DEP	68-05812	06/30/2022
MI	Dept. of Env, Great Lakes, and Energy	9100	09/6/2021

21FO147

con-test
ANALYTICAL LABORATORY

Address: 434 Melbank St, Leominster, MA 01453
Phone: 413-525-2332
Project Location: Leominster, MA
Project Number: 21FO147
Project Manager: Robert Chalcraft
Con-Test Quote Name/Number: 21FO147
Invoice Recipient: Kim Fournier
Sampled By: Kim Fournier

7-Day PFAS 10-Day (std) 10-Day Due Date: 10/14/21
1-Day 3-Day 4-Day
2-Day
Format: PDF EXCEL
Other: CLP Like Data Pkg Required: ☐
Email To:
Fax To #:

Con-Test Work Order #	Client Sample ID / Description	Beginning Date/Time	Ending Date/Time	COMP GRAB	Warning Code	Conc Code	VIALS	GLASS	PLASTIC	BACTERIA	ENCORE
1	8149 INF	5/13/21 11:42	5/13/21 12:30	C	W301A						
2	8150 EFF	5/13/21 12:30	5/13/21 13:15								
3	8151 INF	5/13/21 13:15	5/13/21 14:00								
4	8152 EFF	5/13/21 14:00	5/13/21 14:45								
5	8153 A-T-F	5/13/21 14:45	5/13/21 15:30								
6	B	5/13/21 15:30	5/13/21 16:15								
7	C	5/13/21 16:15	5/13/21 17:00								
8	8154 A EFF	5/13/21 17:00	5/13/21 17:45								
9	B	5/13/21 17:45	5/13/21 18:30								
10	C	5/13/21 18:30	5/13/21 19:15								

Client Comments:
Retinquished by: (signature)
Received by: (signature)
Retinquished by: (signature)
Received by: (signature)
Retinquished by: (signature)
Received by: (signature)
Retinquished by: (signature)
Received by: (signature)

MA MCP Required ☐
MAI Certification Form Required ☐
CFLB Required ☐
MAI Certification Form Required ☐
MAI State Law Required ☐

Project Entity:
Government Federal City ☐
Municipality 21 J Brownfield ☐
MWRA School MBTA ☐
WRTA ☐
Other ☐

PCB ONLY ☐
Soxhlet ☐
Non Soxhlet ☐

ANALYSIS REQUESTED	Preservation Code	Total Number Of:	VIALS	GLASS	PLASTIC	BACTERIA	ENCORE
Chromium							
Silver Zinc							
Mercury, Methyl							
Cadmium, Lead							
Copper, Arsenic							
Aluminum							
Total Phosphorus							
Ammonia							
Total Cyanide							

1 Matrix Codes:
GW = Ground Water
WW = Waste Water
DW = Drinking Water
A = Air
S = Soil
SL = Sludge
SOL = Solid
O = Other (please define)

2 Preservation Codes:
I = Iced
H = HCL
M = Methanol
N = Nitric Acid
S = Sulfuric Acid
B = Sodium Bisulfate
X = Sodium Hydroxide
T = Sodium Thiosulfate
O = Other (please define)

3 Preservation Codes:
I = Iced
H = HCL
M = Methanol
N = Nitric Acid
S = Sulfuric Acid
B = Sodium Bisulfate
X = Sodium Hydroxide
T = Sodium Thiosulfate
O = Other (please define)

PCB ONLY ☐
Soxhlet ☐
Non Soxhlet ☐

Chromatogram ☐
AIMA-LAP, LLC ☐

Disclaimer: Con-Test Labs is not responsible for any omitted information on the Chain of Custody. The Chain of Custody is a legal document that must be complete and accurate and is used to determine what analyses the laboratory will perform. Any missing information is not the laboratory's responsibility. Con-Test values your partnership on each project and will try to assist with missing information, but will not be held accountable.

I Have Not Confirmed Sample Container
Numbers With Lab Staff Before Relinquishing
Over Samples _____



con-test®
ANALYTICAL LABORATORY

Doc# 277 Rev 5 2017

Login Sample Receipt Checklist - (Rejection Criteria Listing - Using Acceptance Policy) Any False

Statement will be brought to the attention of the Client - State True or False

Client Veolia

Received By CM Date 6/3/21 Time 1754

How were the samples received? In Cooler T No Cooler _____ On Ice T No Ice _____
Direct from Sampling _____ Ambient _____ Melted Ice _____

Were samples within Temperature? 2-6°C T By Gun # 2 Actual Temp - 52
By Blank # _____ Actual Temp - _____

Was Custody Seal Intact? NA Were Samples Tampered with? NA

Was COC Relinquished? T Does Chain Agree With Samples? T

Are there broken/leaking/loose caps on any samples? F

Is COC in ink/ Legible? T Were samples received within holding time? T

Did COC include all Client T Analysis T Sampler Name T

pertinent Information? Project T ID's T Collection Dates/Times T

Are Sample labels filled out and legible? T

Are there Lab to Filters? F Who was notified? _____

Are there Rushes? F Who was notified? _____

Are there Short Holds? F Who was notified? _____

Is there enough Volume? T

Is there Headspace where applicable? NA MS/MSD? F

Proper Media/Containers Used? T Is splitting samples required? F

Were trip blanks received? F On COC? F

Do all samples have the proper pH? _____ Acid T Base T

Vials	#	Containers	#	#	#	#
Unp-		1 Liter Amb.		1 Liter Plastic	<u>2</u>	16 oz Amb.
HCL-		500 mL Amb.		500 mL Plastic	<u>4</u>	8oz Amb/Clear
Meoh-		250 mL Amb.		250 mL Plastic	<u>10</u>	4oz Amb/Clear
Bisulfate-		Flashpoint		Col./Bacteria		2oz Amb/Clear
DI-		Other Glass		Other Plastic		Encore
Thiosulfate-		SOC Kit		Plastic Bag		Frozen:
Sulfuric-		Perchlorate		Ziplock		

Unused Media

Vials	#	Containers	#	#	#	#
Unp-		1 Liter Amb.		1 Liter Plastic		16 oz Amb.
HCL-		500 mL Amb.		500 mL Plastic		8oz Amb/Clear
Meoh-		250 mL Amb.		250 mL Plastic		4oz Amb/Clear
Bisulfate-		Col./Bacteria		Flashpoint		2oz Amb/Clear
DI-		Other Plastic		Other Glass		Encore
Thiosulfate-		SOC Kit		Plastic Bag		Frozen:
Sulfuric-		Perchlorate		Ziplock		

Comments:

ATTACHMENT C
LABORATORY REPORTS
FOR LEOMINSTER POTW SLUDGE
KEPT ON FILE AT THE LEOMINSTER WWTP

ATTACHMENT D
ACUTE & CHRONIC TOXICITY SUMMARY SHEETS
DMR'S



March 25, 2021

U.S. Environmental Protection Agency (OES4-SMR)
Water Technical Unit
5 Post Office Square – Suite 100
Boston, MA 02109-3912

To Whom It May Concern:

Attached are the Quarterly Acute and Chronic Toxicity Testing Reports for the City of Leominster Wastewater Treatment Facility, as required by the City's NPDES Permit #MA0100617.

If you should have any questions or require further information, please feel free to call.

Sincerely,

Veolia Water North America

A handwritten signature in black ink, appearing to read "Robert Chalifoux", with a large, stylized loop at the beginning.

Robert Chalifoux
Project Manager

enc.

cc: MADEP – Division of Watershed Management
MADEP – Bureau of Resource Protection

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES)
DISCHARGE MONITORING REPORT (DMR)

OMB No. 2040-0004

PERMITTEE NAME/ADDRESS (Include Facility Name/Location if Different)

NAME: LEOMINSTER W W T P
ADDRESS: 436 MECHANIC ST
LEOMINSTER, MA 01453
FACILITY: LEOMINSTER W W T P
LOCATION: 436 MECHANIC ST
LEOMINSTER, MA 01453

ATTN: ROBERT CHALIFOUX, PLANT MGR

MA0100617	001-B
PERMIT NUMBER	DISCHARGE NUMBER
MONITORING PERIOD	
MM/DD/YYYY	MM/DD/YYYY
03/01/2015	03/31/2015

2021

2021

DMR Mailing ZIP CODE: 01453
MAJOR (SUBR C)
EFFLUENT TOXICITY DATA
External Outfall

No Discharge ☐

PARAMETER	QUANTITY OR LOADING			QUALITY OR CONCENTRATION			NO. EX	FREQUENCY OF ANALYSIS	SAMPLE TYPE
	VALUE	UNITS	VALUE	VALUE	UNITS				
Nitrogen, ammonia total [as N]	*****	*****	*****	0.38	mg/L	01/90	Quarterly	COMP24	
00610 10 Effluent Gross	*****	*****	*****	105	mg/L	01/90	Quarterly	COMP24	
Hardness, total [as CaCO3]	*****	*****	*****	0.002	mg/L	01/90	Quarterly	COMP24	
00900 10 Effluent Gross	*****	*****	*****	0.038	mg/L	01/90	Quarterly	COMP24	
Nickel, total recoverable	*****	*****	*****	0.029	mg/L	01/90	Quarterly	COMP24	
01074 10 Effluent Gross	*****	*****	*****	400001	mg/L	01/90	Quarterly	COMP24	
Zinc, total recoverable	*****	*****	*****	400003	mg/L	01/90	Quarterly	COMP24	
01094 10 Effluent Gross	*****	*****	*****						
Aluminum, total recoverable	*****	*****	*****						
01104 10 Effluent Gross	*****	*****	*****						
Cadmium, total recoverable	*****	*****	*****						
01113 10 Effluent Gross	*****	*****	*****						
Lead, total recoverable	*****	*****	*****						
01114 10 Effluent Gross	*****	*****	*****						

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with the requirements of the law. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER
Robert Chalifoux, Plant Manager
TYPED OR PRINTED

SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT

TELEPHONE

DATE

978-532-5724 01/25/2021

AREA Code

NUMBER

MM/DD/YYYY

COMMENTS AND EXPLANATION OF ANY VIOLATIONS (Reference all attachments here)
TEST IN MARCH, JUNE, SEPT., DEC., REPORT BY april 30, jul. 31, oct 31, AND jan.31.

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES)
DISCHARGE MONITORING REPORT (DMR)

OMB No. 2040-0004

PERMITTEE NAME/ADDRESS (Include Facility Name/Location if Different)
NAME: LEOMINSTER W W T P
ADDRESS: 436 MECHANIC ST
LEOMINSTER, MA 01453
FACILITY: LEOMINSTER W W T P
LOCATION: 436 MECHANIC ST
LEOMINSTER, MA 01453
ATTN: ROBERT CHALIFOUX, PLANT MGR

MA0100617	001-B
PERMIT NUMBER	DISCHARGE NUMBER
MONITORING PERIOD	
MM/DD/YYYY	MM/DD/YYYY
03/01/2014	03/31/2014

DMR Mailing ZIP CODE: 01453
MAJOR (SUBR C)
EFFLUENT TOXICITY DATA
External Outfall

No Discharge ☐

2021

2021

ATTN: ROBERT CHALIFOUX, PLANT MGR

ATTN: ROBERT CHALIFOUX, PLANT MGR										
PARAMETER	SAMPLE MEASUREMENT	QUANTITY OR LOADING			QUALITY OR CONCENTRATION			NO. EX	FREQUENCY OF ANALYSIS	SAMPLE TYPE
		VALUE	VALUE	UNITS	VALUE	VALUE	UNITS			
Copper, total recoverable	PERMIT REQUIREMENT	*****	*****	*****	*****	0.0082	mg/L	0	01/60	COMP24
	SAMPLE MEASUREMENT	*****	*****	*****	*****	Req. Mon. DAILY MX	mg/L		Quarterly	COMP24
01119 10 Effluent Gross	PERMIT REQUIREMENT	*****	*****	*****	*****	*****	%	0	01/60	COMP24
	SAMPLE MEASUREMENT	*****	*****	*****	*****	*****	%		Four per Year	COMP24
TAA3B 10 Effluent Gross	PERMIT REQUIREMENT	*****	*****	*****	*****	*****	%	0	01/60	COMP24
	SAMPLE MEASUREMENT	*****	*****	*****	*****	*****	%		Quarterly	COMP24
Noel Stare 7Day Chronic Ceriodaphnia	PERMIT REQUIREMENT	*****	*****	*****	*****	*****	%	0	01/60	COMP24
	SAMPLE MEASUREMENT	*****	*****	*****	*****	*****	%		Quarterly	COMP24
TBP3B 10 Effluent Gross	PERMIT REQUIREMENT	*****	*****	*****	*****	*****	%	0	01/60	COMP24
	SAMPLE MEASUREMENT	*****	*****	*****	*****	*****	%		Quarterly	COMP24

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER	TELEPHONE	DATE
Robert Chalifoux	978-337-5221	3/25/2021
TYPED OR PRINTED	AREA Code	NUMBER
	978	337-5221
SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT		
MM/DD/YYYY		

COMMENTS AND EXPLANATION OF ANY VIOLATIONS (Reference all attachments here)
TEST IN MARCH, JUNE, SEPT., DEC., REPORT BY april 30, jul. 31, oct 31, AND Jan.31.



New England Bioassay Inc.

Aquatic Toxicity Testing Services

77 Batson Drive
Manchester, CT 06042
(860)-643-9560
www.nebio.com

CHRONIC AQUATIC TOXICITY TEST REPORT

Permittee: Leominster WWTP NPDES # MA0100617
Report submitted to: 436 Mechanic Street
Leominster, MA 01453
Sample ID: Effluent
Test Month/Year: March 2021
NEB Proj # 44644

Test Type / Method: *Ceriodaphnia dubia* Modified Chronic Static-Renewal Freshwater
Test Method 1002.0; EPA 821-R-02-013

Effluent Sample Dates: #1 3/9-10/21 #2 3/11-12/21 #3 3/14-15/21

Test Start Date: 3/10/21

Results Summary

Your results were as follows:

Passed all permit limits

Acute Test Results

Species	LC50	A-NOEC	Permit Limit	Pass / Fail
<i>Ceriodaphnia dubia</i>	>100%	100%	≥ 100%	Pass

Chronic Test Results

Species	C-NOEC	C-LOEC	IC25	Permit Limit	Pass/Fail
<i>Ceriodaphnia dubia</i>	100%	>100%	>100%	≥ 43.5%	Pass

Data Qualifiers affecting this test:

Certifications & Approvals: NH ELAP (2071), NJ DEP (CT405)

This report shall not be reproduced, except in its entirety, without approval of NEB. NEB is the sole authority for authorizing edits or modifications to the data contained in this report. NEB holds no responsibility for results and/or data that are not consistent with the original. Please contact the Lab Director, Kimberly Wills, at 860-643-9560 or kimberly.wills@nebio.com if you have questions concerning these results.

Test Report Certification

Permittee name: Leominster WWTP Permit number: MA0100617
Client sample ID: Effluent Test Start Date: 3/10/21

Whole Effluent Toxicity Test Report Certification (Permittee)

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Executed on:

3/25/2021
(Date)

Authorized Signature

Robert Chaloux Project Manager
Print or Type Name and Title

City of Leominster MA
Print or Type the Permittee's Name

MA0100617

Print or Type the NPDES Permit Number

Whole Effluent Toxicity Test Report Certification (Bioassay Laboratory)

The results reported relate only to the samples submitted as received

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Executed on:

3/22/21

(Date)

Kimberly Wills

Kimberly Wills

Laboratory Director

New England Bioassay Inc.

General Test Conditions

Permittee name: Leominster WWTP Permit number: MA0100617
Client sample ID: Effluent Test Start Date: 3/10/21

Sample Collection Information

Effluent #1 Dates/Times: 3/9-10/21 @ 0900-0826 Receiving Water #1 Date/Time: 3/10/21 @ 0900
Effluent #2 Dates/Times: 3/11-12/21 @ 0844-0821 Receiving Water #2 Date/Time: 3/12/21 @ 0845
Effluent #3 Dates/Times: 3/14-15/21 @ 1404-0912 Receiving Water #3 Date/Time: 3/15/21 @ 0930
Were a minimum of three samples collected? Yes ☒ No ☐ *(see note below)
Were samples used within the first 36 hours of collection? Yes ☒ No ☐ *(see note below)
* sample collection note:

Test Conditions

Permittee's Receiving Water: Nashua River
• Dilution water: Laboratory synthetic soft water (hardness 45 - 55 mg/L CaCO₃)
• Control water: Receiving water collected at a point immediately upstream of or away from the discharge
Effluent concentrations tested: 0%, 6.25%, 12.5%, 25%, 43.5%, 50%, 100%
Was effluent salinity adjusted? No ☒ Yes ☐ with Instant Ocean sea salts to _____ ppt
Dechlorination procedures: Chlorine is measured using 4500 CL-G DPD Colorimetric Method
• Dechlorination was not required

TRC results and further information about aeration of samples can be found attached in "sample receipt chemistry"

Reference Toxicant Data

Ceriodaphnia dubia

Date: 3/1/21
Toxicant: Sodium chloride
Dilution Water: NEB CTRMH
Organism Source: NEB
Reproduction IC25: 1.02 g/L
Results within range Yes ☒ No ☐

Ceriodaphnia dubia Test Results

Permittee name: Leominster WWTP Permit number: MA0100617
 Client sample ID: Effluent Test Dates: 3/10/21 - 3/16/21

Test Acceptability Criteria

Lab Diluent Survival: 90 % Mean Lab Diluent Reproduction: 30.2 young per female
 River Control Survival: 100 % Mean River Control Reproduction: 32.4 young per female
 Thiosulfate Control Survival: N/A % Mean Thiosulfate Control Reproduction: N/A young per female
 Presence of an asterisk (*) indicates EPA criteria was not met, see explanation in the "Results Discussion" section at the bottom of the following page.

Test Results

		Permit Limit	Test Result	Pass/Fail Status
Acute Data	48 hr LC50	≥ 100%	>100%	Pass
	48 hr NOEC		100%	
	TUa			
Chronic Data	Chronic LC50		>100%	
	Survival C-NOEC		100%	
	Survival C-LOEC		>100%	
	Reproduction C-NOEC		100%	
	Reproduction C-LOEC		>100%	
	Reproduction IC25		>100%	
	Reproduction IC50		>100%	
	Reportable C-NOEC	≥ 43.5%	100%	Pass
	Reportable C-LOEC		>100%	
	MATC		>100%	
	TUc			

Presence of an asterisk (*) indicates qualified data, see explanation in the "Results Discussion" section at the bottom of the following page.

Test Variability

Reproduction PMSD: 23.2% Upper & Lower EPA bounds: 13 - 47% ☐ Low ☒ Within bounds ☐ High

- ☐ PMSD exceeds upper bounds. Test results are highly variable and may not be sensitive enough to determine the presence of toxicity at the permit limit concentration (PLC)
- ☒ The PMSD falls within the upper (47%) and lower (13%) bounds. Results are reportable.
- ☐ PMSD falls below the lower bound test variability criterion. The test is very sensitive. The relative percent difference (RPD) between the control and each treatment was calculated and compared to the lower bound.
- ☐ The RPD values for all concentrations fall below the lower bound. Any differences observed in this test are considered statistically insignificant.
- ☐ Some of the concentrations that were flagged as statistically significant have RPD values that fall below the lower bound. Any differences observed in these concentrations will not be considered statistically significantly decreased from the control.
- ☐ No statistically significant reductions were observed in this test.

***Ceriodaphnia dubia* Test Results**

Permittee name: Leominster WWTP Permit number: MA0100617
Client sample ID: Effluent Test Dates: 3/10/21 - 3/16/21

Concentration - Response Evaluation

Survival: #11 No concentration-response curve: no mortality observed at any concentration.

Reproduction: #12 No significant effects at any test concentration with a relatively flat concentration-response curve.
Test concentrations performed both above and below (but similarly to) the dilution control.

The concentration - response relationship was reviewed and the following determination was made:

Survival	Reproduction	
<u>X</u>	<u>X</u>	Results are reliable and reportable
<u> </u>	<u> </u>	Results are anomalous (see explanation below)
<u> </u>	<u> </u>	Results are inconclusive - retest (see explanation below)

Results Discussion (if applicable):



July 7, 2021

MA Dept. Of Environmental Protection
Bureau of Resource Protection
Central Region Office
Nashua Watershed Team
8 New Bond Street
Worcester MA, 01606

To Whom It May Concern:

Attached are the Quarterly Acute and Chronic Toxicity Testing Reports for the City of Leominster Wastewater Treatment Facility, as required by the City's NPDES Permit #MA0100617.

If you should have any questions or require further information, please feel free to call.

Sincerely,

Veolia Water North America

A handwritten signature in black ink, appearing to read "Robert Chalifoux", with a stylized flourish at the end.

Robert Chalifoux
Plant Manager

enc.

cc: USEPA - Region I (OES4-DMR)
MADEP - Division of Watershed Management

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES)
DISCHARGE MONITORING REPORT (DMR)

Form Approved
OMB No. 2040-0004

PERMITTEE NAME/ADDRESS (include Facility Name/Location if Different)

NAME: LEOMINSTER W W T P
ADDRESS: 436 MECHANIC ST
LEOMINSTER, MA 01453
FACILITY: LEOMINSTER W W T P
LOCATION: 436 MECHANIC ST
LEOMINSTER, MA 01453

ATTN: ROBERT CHALFOUX, PLANT MGR

MA0100617	001-B
PERMIT NUMBER	DISCHARGE NUMBER

MONITORING PERIOD	
MM/DD/YYYY	MM/DD/YYYY
06/01/2021	06/30/2021

DMR Mailing ZIP CODE: 01453
MAJOR (SUBR C)
EFFLUENT TOXICITY DATA
External Outfall

No Discharge ☐

PARAMETER	SAMPLE MEASUREMENT	QUANTITY OR LOADING			QUALITY OR CONCENTRATION			NO. EX	FREQUENCY OF ANALYSIS	SAMPLE TYPE
		VALUE	VALUE	UNITS	VALUE	VALUE	VALUE			
Nitrogen, ammonia total [as N]	PERMIT	*****	*****	*****	*****	*****	0.17	0	01/90	COMP24
00610 1 0	PERMIT	*****	*****	*****	*****	*****	94	0	01/90	COMP24
Effluent Gross	PERMIT	*****	*****	*****	*****	*****	Reg. Mon. DAILY MX	0	01/90	COMP24
Hardness, total [as CaCO3]	PERMIT	*****	*****	*****	*****	*****	0.004	0	01/90	COMP24
00900 1 0	PERMIT	*****	*****	*****	*****	*****	Reg. Mon. DAILY MX	0	01/90	COMP24
Effluent Gross	PERMIT	*****	*****	*****	*****	*****	0.020	0	01/90	COMP24
Nickel, total recoverable	PERMIT	*****	*****	*****	*****	*****	Reg. Mon. DAILY MX	0	01/90	COMP24
01074 1 0	PERMIT	*****	*****	*****	*****	*****	0.013	0	01/90	COMP24
Effluent Gross	PERMIT	*****	*****	*****	*****	*****	Reg. Mon. DAILY MX	0	01/90	COMP24
Zinc, total recoverable	PERMIT	*****	*****	*****	*****	*****	40.0001	0	01/90	COMP24
01094 1 0	PERMIT	*****	*****	*****	*****	*****	Reg. Mon. DAILY MX	0	01/90	COMP24
Effluent Gross	PERMIT	*****	*****	*****	*****	*****	40.0003	0	01/90	COMP24
Aluminum, total recoverable	PERMIT	*****	*****	*****	*****	*****	Reg. Mon. DAILY MX	0	01/90	COMP24
01104 1 0	PERMIT	*****	*****	*****	*****	*****	mg/L	0	01/90	COMP24
Effluent Gross	PERMIT	*****	*****	*****	*****	*****	mg/L	0	01/90	COMP24
Cadmium, total recoverable	PERMIT	*****	*****	*****	*****	*****	mg/L	0	01/90	COMP24
01113 1 0	PERMIT	*****	*****	*****	*****	*****	mg/L	0	01/90	COMP24
Effluent Gross	PERMIT	*****	*****	*****	*****	*****	mg/L	0	01/90	COMP24
Lead, total recoverable	PERMIT	*****	*****	*****	*****	*****	mg/L	0	01/90	COMP24
01114 1 0	PERMIT	*****	*****	*****	*****	*****	mg/L	0	01/90	COMP24
Effluent Gross	PERMIT	*****	*****	*****	*****	*****	mg/L	0	01/90	COMP24

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER	SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT	TELEPHONE	DATE
Robert Chalfoux, Plant Manager		915-537-5720	7/7/2021
TYPED OR PRINTED		AREA CODE	NUMBER
		915	537-5720

COMMENTS AND EXPLANATION OF ANY VIOLATIONS (Reference all attachments here)
TEST IN MARCH, JUNE, SEPT., DEC., REPORT BY APRIL 30, JULY 31, OCT 31, AND JAN 31.

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES)
DISCHARGE MONITORING REPORT (DMR)

Form Approved
OMB No. 2040-0004

PERMITTEE NAME/ADDRESS (include Facility Name/location if Different)

NAME: LEOMINSTER W W T P
ADDRESS: 436 MECHANIC ST
LEOMINSTER, MA 01463
FACILITY: LEOMINSTER W W T P
LOCATION: 436 MECHANIC ST
LEOMINSTER, MA 01463

ATTN: ROBERT CHALFOUX, PLANT MGR

MA0100617	001-B
PERMIT NUMBER	DISCHARGE NUMBER

MM/DD/YYYY	MM/DD/YYYY
09/01/2015	09/31/2015
MONITORING PERIOD	

09/01/2015 09/31/2015

DMR Mailing ZIP CODE: 01463
MAJOR (SUB C)
EFFLUENT TOXICITY DATA
External Outfall

No Discharge ☐

PARAMETER	SAMPLE MEASUREMENT	QUANTITY OR LOADING			QUALITY OR CONCENTRATION			NO. OF ANALYSIS	FREQUENCY OF ANALYSIS	SAMPLE TYPE
		VALUE	UNITS	VALUE	VALUE	UNITS	EX			
Copper, total recoverable	MEASUREMENT	*****	*****	*****	*****	*****	0	01/90	Quarterly	COMP24
01119 10	PERMIT REQUIREMENT	*****	*****	*****	*****	*****	0	01/90	Quarterly	COMP24
Effluent Gross	PERMIT REQUIREMENT	*****	*****	*****	*****	*****	0	01/90	Quarterly	COMP24
LC50 Static 48Hr Acute	MEASUREMENT	*****	*****	*****	*****	*****	0	01/90	Quarterly	COMP24
Ceriodaphnia	PERMIT REQUIREMENT	*****	*****	*****	*****	*****	0	01/90	Quarterly	COMP24
TAA3B 10	PERMIT REQUIREMENT	*****	*****	*****	*****	*****	0	01/90	Quarterly	COMP24
Effluent Gross	MEASUREMENT	*****	*****	*****	*****	*****	0	01/90	Quarterly	COMP24
Noel State 7Day Chronic	PERMIT REQUIREMENT	*****	*****	*****	*****	*****	0	01/90	Quarterly	COMP24
Ceriodaphnia	PERMIT REQUIREMENT	*****	*****	*****	*****	*****	0	01/90	Quarterly	COMP24
TBP3B 10	PERMIT REQUIREMENT	*****	*****	*****	*****	*****	0	01/90	Quarterly	COMP24
Effluent Gross	PERMIT REQUIREMENT	*****	*****	*****	*****	*****	0	01/90	Quarterly	COMP24

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER	TELEPHONE	DATE
Robert Chalfoux	978-533-5700	7/7/2015
TYPED OR PRINTED	SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT	

COMMENTS AND EXPLANATION OF ANY VIOLATIONS (Reference all attachments here)
TEST IN MARCH, JUNE, SEPT., DEC., REPORT BY April 30, Jul. 31, Oct 31, AND Jan. 31.



New England Bioassay Inc.

Aquatic Toxicity Testing Services

77 Batson Drive
Manchester, CT 06042
(860)-643-9560
www.nebio.com

CHRONIC AQUATIC TOXICITY TEST REPORT

Permittee: Leominster WWTP NPDES # MA0100617
Report submitted to: 436 Mechanic Street
Leominster, MA 01453
Sample ID: Effluent
Test Month/Year: June 2021
NEB Proj # 44644

Test Type / Method: *Ceriodaphnia dubia* Modified Chronic Static-Renewal Freshwater
Test Method 1002.0; EPA 821-R-02-013

Effluent Sample Dates: #1 6/8-9/21 #2 6/10-11/21 #3 6/13-14/21

Test Start Date: 6/9/21

Results Summary

Your results were as follows:

Passed all permit limits

Acute Test Results

Species	LC50	A-NOEC	Permit Limit	Pass / Fail
<i>Ceriodaphnia dubia</i>	>100%	100%	≥ 100%	Pass

Chronic Test Results

Species	C-NOEC	C-LOEC	IC25	Permit Limit	Pass/Fail
<i>Ceriodaphnia dubia</i>	100%	>100%	>100%	≥ 43.5%	Pass

Data Qualifiers affecting this test:

Certifications & Approvals: NH ELAP (2071), NJ DEP (CT405)

This report shall not be reproduced, except in its entirety, without approval of NEB. NEB is the sole authority for authorizing edits or modifications to the data contained in this report. NEB holds no responsibility for results and/or data that are not consistent with the original. Please contact the Lab Director, Kimberly Wills, at 860-643-9560 or kimberly.wills@nebio.com if you have questions concerning these results.

Test Report Certification

Permittee name: Leominster WWTP Permit number: MA0100617
Client sample ID: Effluent Test Start Date: 6/9/21

Whole Effluent Toxicity Test Report Certification (Permittee)

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Executed on:

7-7-21

(Date)

Authorized Signature

Robert Chalifoux Project Manager

Print or Type Name and Title

City of Leominster MA

Print or Type the Permittee's Name

MA0100617

Print or Type the NPDES Permit Number

Whole Effluent Toxicity Test Report Certification (Bioassay Laboratory)

The results reported relate only to the samples submitted as received

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Executed on:

6/24/21

(Date)

Kimberly Wills

Kimberly Wills

Laboratory Director

New England Bioassay Inc.

General Test Conditions

Permittee name: Leominster WWTP Permit number: MA0100617
Client sample ID: Effluent Test Start Date: 6/9/21

Sample Collection Information

Effluent #1 Dates/Times: 6/8-9/21 @ 0929-0822 Receiving Water #1 Date/Time: 6/9/21 @ 0855
Effluent #2 Dates/Times: 6/10-11/21 @ 0851-0849 Receiving Water #2 Date/Time: 6/11/21 @ 0835
Effluent #3 Dates/Times: 6/13-14/21 @ 1331-0840 Receiving Water #3 Date/Time: 6/14/21 @ 0855

Were a minimum of three samples collected? Yes ☒ No ☐ *(see note below)

Were samples used within the first 36 hours of collection? Yes ☒ No ☐ *(see note below)

* sample collection note:

Test Conditions

Permittee's Receiving Water: Nashua River

- Dilution water: Laboratory synthetic soft water (hardness 45 - 55 mg/L CaCO₃)
- Control water: Receiving water collected at a point immediately upstream of or away from the discharge

Effluent concentrations tested: 0%, 6.25%, 12.5%, 25%, 43.5%, 50%, 100%

Was effluent salinity adjusted? No ☒ Yes ☐ with Instant Ocean sea salts to _____ ppt

Dechlorination procedures: Chlorine is measured using 4500 CL-G DPD Colorimetric Method

- Dechlorination was not required

TRC results and further information about aeration of samples can be found attached in "sample receipt chemistry"

Reference Toxicant Data

Ceriodaphnia dubia

Date: 6/14/21
Toxicant: Sodium chloride
Dilution Water: NEB CTRMH
Organism Source: NEB
Reproduction IC25: 1.17 g/L
Results within range Yes ☒ No ☐

Ceriodaphnia dubia Test Results

Permittee name: Leominster WWTP Permit number: MA0100617
 Client sample ID: Effluent Test Dates: 6/9/21 - 6/15/21

Test Acceptability Criteria

Lab Diluent Survival: 100 % Mean Lab Diluent Reproduction: 23.4 young per female
 River Control Survival: 100 % Mean River Control Reproduction: 31.8 young per female
 Thiosulfate Control Survival: N/A % Mean Thiosulfate Control Reproduction: N/A young per female

Presence of an asterisk (*) indicates EPA criteria was not met, see explanation in the "Results Discussion" section at the bottom of the following page.

Test Results

		Permit Limit	Test Result	Pass/Fail Status
Acute Data	48 hr LC50	≥ 100%	>100%	Pass
	48 hr NOEC		100%	
	TUa			
Chronic Data	Chronic LC50		>100%	
	Survival C-NOEC		100%	
	Survival C-LOEC		>100%	
	Reproduction C-NOEC		100%	
	Reproduction C-LOEC		>100%	
	Reproduction IC25		>100%	
	Reproduction IC50		>100%	
	Reportable C-NOEC	≥ 43.5%	100%	Pass
	Reportable C-LOEC		>100%	
	MATC		>100%	
	TUc			

Presence of an asterisk (*) indicates qualified data, see explanation in the "Results Discussion" section at the bottom of the following page.

Test Variability

Reproduction PMSD: 16.4% Upper & Lower EPA bounds: 13 - 47% ☐ Low ☒ Within bounds ☐ High

- ☐ PMSD exceeds upper bounds. Test results are highly variable and may not be sensitive enough to determine the presence of toxicity at the permit limit concentration (PLC)
- ☒ The PMSD falls within the upper (47%) and lower (13%) bounds. Results are reportable.
- ☐ PMSD falls below the lower bound test variability criterion. The test is very sensitive. The relative percent difference (RPD) between the control and each treatment was calculated and compared to the lower bound.
- ☐ The RPD values for all concentrations fall below the lower bound. Any differences observed in this test are considered statistically insignificant.
- ☐ Some of the concentrations that were flagged as statistically significant have RPD values that fall below the lower bound. Any differences observed in these concentrations will not be considered statistically significantly decreased from the control.
- ☐ No statistically significant reductions were observed in this test.

Ceriodaphnia dubia Test Results

Permittee name: Leominster WWTP Permit number: MA0100617
Client sample ID: Effluent Test Dates: 6/9/21 - 6/15/21

Concentration - Response Evaluation

Survival: #11 No concentration-response curve: no mortality observed at any concentration.

Reproduction: #12 No significant effects at any test concentration with a relatively flat concentration-response curve.
Test concentrations performed both above and below (but similarly to) the dilution control.

The concentration - response relationship was reviewed and the following determination was made:

Survival	Reproduction	
<u>X</u>	<u>X</u>	Results are reliable and reportable
<u> </u>	<u> </u>	Results are anomalous (see explanation below)
<u> </u>	<u> </u>	Results are inconclusive - retest (see explanation below)

Results Discussion (if applicable):



October 7, 2021

U.S. Environmental Protection Agency (OES4-SMR)
Water Technical Unit
5 Post Office Square – Suite 100
Boston, MA 02109-3912

To Whom It May Concern:

Attached are the Quarterly Acute and Chronic Toxicity Testing Reports for the City of Leominster Wastewater Treatment Facility, as required by the City's NPDES Permit #MA0100617.

If you should have any questions or require further information, please feel free to call.

Sincerely,

Veolia Water North America

A handwritten signature in black ink, appearing to read "Robert Chalifoux", with a large, sweeping flourish extending to the right.

Robert Chalifoux
Project Manager

enc.

cc: MADEP – Division of Watershed Management
MADEP – Bureau of Resource Protection

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES)
DISCHARGE MONITORING REPORT (DMR)

OMB No. 2040-0004

PERMITTEE NAME/ADDRESS (Include Facility Name/Location if Different)
NAME: LEOMINSTER W W T P
ADDRESS: 436 MECHANIC ST
LEOMINSTER, MA 01453
FACILITY: LEOMINSTER W W T P
LOCATION: 436 MECHANIC ST
LEOMINSTER, MA 01453
ATTN: ROBERT CHALFOUX, PLANT MGR

MA0100617	001-B
PERMIT NUMBER	DISCHARGE NUMBER
MONITORING PERIOD	
MM/DD/YYYY	MM/DD/YYYY
02/04/2015	02/04/2015
09/30/2021	

DMR Mailing ZIP CODE: 01453
MAJOR (SUBR C)
EFFLUENT TOXICITY DATA
External Outfall

No Discharge ☐

ATTN: ROBERT CHALIFOUX, PLANT MGR											
PARAMETER	QUANTITY OR LOADING				QUALITY OR CONCENTRATION				NO. EX	FREQUENCY OF ANALYSIS	SAMPLE TYPE
	VALUE	VALUE	UNITS	VALUE	VALUE	UNITS	VALUE	UNITS			
Nitrogen, ammonia total [as N]	SAMPLE MEASUREMENT	*****	*****	*****	*****	*****	0.12	mg/L	0	01/20	COMP24
	PERMIT REQUIREMENT	*****	*****	*****	*****	*****	Req. Mon. DAILY MX	mg/L		Quarterly	COMP24
	SAMPLE MEASUREMENT	*****	*****	*****	*****	*****	03.5	mg/L	0	01/20	COMP24
	PERMIT REQUIREMENT	*****	*****	*****	*****	*****	Req. Mon. DAILY MX	mg/L		Quarterly	COMP24
00900 10 Effluent Gross Nickel, total recoverable	SAMPLE MEASUREMENT	*****	*****	*****	*****	*****	0.003	mg/L	0	01/20	COMP24
	PERMIT REQUIREMENT	*****	*****	*****	*****	*****	Req. Mon. DAILY MX	mg/L		Quarterly	COMP24
	SAMPLE MEASUREMENT	*****	*****	*****	*****	*****	0.012	mg/L	0	01/20	COMP24
	PERMIT REQUIREMENT	*****	*****	*****	*****	*****	Req. Mon. DAILY MX	mg/L		Quarterly	COMP24
01074 10 Effluent Gross Zinc, total recoverable	SAMPLE MEASUREMENT	*****	*****	*****	*****	*****	40.010	mg/L	0	01/20	COMP24
	PERMIT REQUIREMENT	*****	*****	*****	*****	*****	Req. Mon. DAILY MX	mg/L		Quarterly	COMP24
	SAMPLE MEASUREMENT	*****	*****	*****	*****	*****	40.0001	mg/L	0	01/20	COMP24
	PERMIT REQUIREMENT	*****	*****	*****	*****	*****	Req. Mon. DAILY MX	mg/L		Quarterly	COMP24
01104 10 Effluent Gross Cadmium, total recoverable	SAMPLE MEASUREMENT	*****	*****	*****	*****	*****	40.0003	mg/L	0	01/20	COMP24
	PERMIT REQUIREMENT	*****	*****	*****	*****	*****	Req. Mon. DAILY MX	mg/L		Quarterly	COMP24
	SAMPLE MEASUREMENT	*****	*****	*****	*****	*****	40.0003	mg/L	0	01/20	COMP24
	PERMIT REQUIREMENT	*****	*****	*****	*****	*****	Req. Mon. DAILY MX	mg/L		Quarterly	COMP24
01113 10 Effluent Gross Lead, total recoverable	SAMPLE MEASUREMENT	*****	*****	*****	*****	*****	40.0003	mg/L	0	01/20	COMP24
	PERMIT REQUIREMENT	*****	*****	*****	*****	*****	Req. Mon. DAILY MX	mg/L		Quarterly	COMP24
	SAMPLE MEASUREMENT	*****	*****	*****	*****	*****	40.0003	mg/L	0	01/20	COMP24
	PERMIT REQUIREMENT	*****	*****	*****	*****	*****	Req. Mon. DAILY MX	mg/L		Quarterly	COMP24
01114 10 Effluent Gross	SAMPLE MEASUREMENT	*****	*****	*****	*****	*****	40.0003	mg/L	0	01/20	COMP24
	PERMIT REQUIREMENT	*****	*****	*****	*****	*****	Req. Mon. DAILY MX	mg/L		Quarterly	COMP24
	SAMPLE MEASUREMENT	*****	*****	*****	*****	*****	40.0003	mg/L	0	01/20	COMP24
	PERMIT REQUIREMENT	*****	*****	*****	*****	*****	Req. Mon. DAILY MX	mg/L		Quarterly	COMP24

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted by this person or persons who manage the NPDES discharge. I am a duly licensed professional engineer or geologist in the State of Massachusetts, and I am a duly licensed professional engineer or geologist in the State of Massachusetts, and I am a duly licensed professional engineer or geologist in the State of Massachusetts.

SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT

TELEPHONE DATE

978-533-5223 10/4/2021

AREA Code NUMBER MM/DD/YYYY

COMMENTS AND EXPLANATION OF ANY VIOLATIONS (Reference all attachments here)
TEST IN MARCH, JUNE, SEPT., DEC., REPORT BY april 30, jul. 31, oct 31, AND jan.31.

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES)
DISCHARGE MONITORING REPORT (DMR)

PERMITTEE NAME/ADDRESS (include Facility Name/Location if Different)
NAME: LEOMINSTER W W T P
ADDRESS: 436 MECHANIC ST
LEOMINSTER, MA 01453
FACILITY: LEOMINSTER W W T P
LOCATION: 436 MECHANIC ST
LEOMINSTER, MA 01453
ATTN: ROBERT CHALIFOUX, PLANT MGR

DMR Mailing ZIP CODE: 01453
MAJOR (SUBR C)
EFFLUENT TOXICITY DATA
External Outfall

No Discharge ☐

MA0100617	001-B
PERMIT NUMBER	DISCHARGE NUMBER
MONITORING PERIOD	
MM/DD/YYYY	MM/DD/YYYY
09/01/2021	09/30/2021

PARAMETER	QUANTITY OR LOADING			QUALITY OR CONCENTRATION			NO. EX	FREQUENCY OF ANALYSIS	SAMPLE TYPE
	VALUE	UNITS	VALUE	UNITS	VALUE	UNITS			
Copper, total recoverable	*****	*****	*****	*****	0.0080	mg/L	0	01/90	0224
01119 10 Effluent Gross	*****	*****	*****	*****	Req. Mon. DAILY MX	*****		Quarterly	COMP24
LC50 Static 48Hr Acute Ceriodaphnia	*****	*****	*****	*****	*****	*****	0	01/20	0224
TAA3B 10 Effluent Gross	*****	*****	*****	*****	*****	*****		Four per Year	COMP24
Noel Statre 7Day Chronic Ceriodaphnia	*****	*****	*****	*****	*****	*****	0	01/20	0224
TBP3B 10 Effluent Gross	*****	*****	*****	*****	*****	*****		Quarterly	COMP24

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER	TELEPHONE	DATE
<i>Robert Chalifoux</i> TYPED OR PRINTED	978-531-5720	10/4/2021
SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT		
AREA Code NUMBER		
MM/DD/YYYY		

COMMENTS AND EXPLANATION OF ANY VIOLATIONS (Reference all attachments here)
TEST IN MARCH, JUNE, SEPT., DEC., REPORT BY april 30, jul. 31, oct 31, AND jan.31.

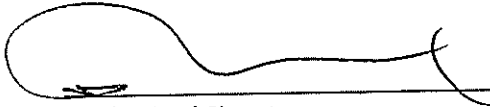
Test Report Certification

Permittee name: Leominster WWTP Permit number: MA0100617
Client sample ID: Effluent Test Start Date: 9/8/21

Whole Effluent Toxicity Test Report Certification (Permittee)

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Executed on: 10-4-2021
(Date)


Authorized Signature

Robert Chabou Project Manager
Print or Type Name and Title

City of Leominster MA
Print or Type the Permittee's Name

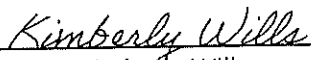
MA0100617
Print or Type the NPDES Permit Number

Whole Effluent Toxicity Test Report Certification (Bioassay Laboratory)

The results reported relate only to the samples submitted as received

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Executed on: 10-4-2021
(Date)


Kimberly Wills
Laboratory Director
New England Bioassay Inc.

General Test Conditions

Permittee name: Leominster WWTP Permit number: MA0100617
Client sample ID: Effluent Test Start Date: 9/8/21

Sample Collection Information

Effluent #1 Dates/Times: 9/7-8/21 @ 0844-0818 Receiving Water #1 Date/Time: 9/8/21 @ 0850
Effluent #2 Dates/Times: 9/9-10/21 @ 0845-0811 Receiving Water #2 Date/Time: 9/10/21 @ 0835
Effluent #3 Dates/Times: 9/12-13/21 @ 1306-0915 Receiving Water #3 Date/Time: 9/13/21 @ 0920

Were a minimum of three samples collected? Yes ☒ No ☐ *(see note below)

Were samples used within the first 36 hours of collection? Yes ☒ No ☐ * (see note below)

* sample collection note:

Test Conditions

Permittee's Receiving Water: Nashua River

- Dilution water: Laboratory synthetic soft water (hardness 45 - 55 mg/L CaCO₃)
- Control water: Receiving water collected at a point immediately upstream of or away from the discharge

Effluent concentrations tested: 0%, 6.25%, 12.5%, 25%, 43.5%, 50%, 100%

Was effluent salinity adjusted? No ☒ Yes ☐ with Instant Ocean sea salts to _____ ppt

Dechlorination procedures: Chlorine is measured using 4500 CL-G DPD Colorimetric Method

- Dechlorination was not required

TRC results and further information about aeration of samples can be found attached in "sample receipt chemistry"

Reference Toxicant Data

Ceriodaphnia dubia

Date: 9/20/21
Toxicant: Sodium chloride
Dilution Water: NEB CTRMH
Organism Source: NEB
Reproduction IC25: 0.65 g/L
Results within range Yes ☒ No ☐

Ceriodaphnia dubia Test Results

Permittee name: Leominster WWTP Permit number: MA0100617
 Client sample ID: Effluent Test Dates: 9/8/21 - 9/15/21

Test Acceptability Criteria

Lab Diluent Survival: 90 % Mean Lab Diluent Reproduction: 21.2 young per female
 River Control Survival: 90 % Mean River Control Reproduction: 23.7 young per female
 Thiosulfate Control Survival: N/A % Mean Thiosulfate Control Reproduction: N/A young per female
 Presence of an asterisk (*) indicates EPA criteria was not met, see explanation in the "Results Discussion" section at the bottom of the following page.

Test Results

		Permit Limit	Test Result	Pass/Fail Status
Acute Data	48 hr LC50	≥ 100%	>100%	Pass
	48 hr NOEC		100%	
	TUa			
Chronic Data	Chronic LC50		>100%	
	Survival C-NOEC		100%	
	Survival C-LOEC		>100%	
	Reproduction C-NOEC		100%	
	Reproduction C-LOEC		>100%	
	Reproduction IC25		>100%	
	Reproduction IC50		>100%	
	Reportable C-NOEC	≥ 43.5%	100%	Pass
	Reportable C-LOEC		>100%	
	MATC		>100%	
	TUc			

Presence of an asterisk (*) indicates qualified data, see explanation in the "Results Discussion" section at the bottom of the following page.

Test Variability

- Reproduction PMSD: 24.5% Upper & Lower EPA bounds: 13 - 47% ☐ Low ☒ Within bounds ☐ High
- ☐ PMSD exceeds upper bounds. Test results are highly variable and may not be sensitive enough to determine the presence of toxicity at the permit limit concentration (PLC)
- ☒ The PMSD falls within the upper (47%) and lower (13%) bounds. Results are reportable.
- ☐ PMSD falls below the lower bound test variability criterion. The test is very sensitive. The relative percent difference (RPD) between the control and each treatment was calculated and compared to the lower bound.
- ☐ The RPD values for all concentrations fall below the lower bound. Any differences observed in this test are considered statistically insignificant.
- ☐ Some of the concentrations that were flagged as statistically significant have RPD values that fall below the lower bound. Any differences observed in these concentrations will not be considered statistically significantly decreased from the control.
- ☐ No statistically significant reductions were observed in this test.

Ceriodaphnia dubia Test Results

Permittee name: Leominster WWTP Permit number: MA0100617
Client sample ID: Effluent Test Dates: 9/8/21 - 9/15/21

Concentration - Response Evaluation

Survival: #12 No significant effects at any test concentration with a flat concentration-response curve. Test concentrations performed very similarly to dilution control.

Reproduction: #13 No significant effects at any test concentration with a relatively flat concentration-response curve. Test concentrations performed equal to or better than the dilution control.

The concentration - response relationship was reviewed and the following determination was made:

Survival	Reproduction	
<u>X</u>	<u>X</u>	Results are reliable and reportable
<u> </u>	<u> </u>	Results are anomalous (see explanation below)
<u> </u>	<u> </u>	Results are inconclusive - retest (see explanation below)

Results Discussion (if applicable):



January 18, 2022

U.S. Environmental Protection Agency (OES4-SMR)
Water Technical Unit
5 Post Office Square – Suite 100
Boston, MA 02109-3912

To Whom It May Concern:

Attached are the Quarterly Acute and Chronic Toxicity Testing Reports for the City of Leominster Wastewater Treatment Facility, as required by the City's NPDES Permit #MA0100617.

If you should have any questions or require further information, please feel free to call.

Sincerely,

Veolia Water North America

A handwritten signature in black ink, appearing to read "Robert Chalifoux", with a stylized, flowing script.

Robert Chalifoux
Project Manager

enc.

cc: MADEP – Division of Watershed Management
MADEP – Bureau of Resource Protection



77 Batson Drive
Manchester, CT 06042
(860)-643-9560
www.nebio.com

New England Bioassay Inc.

Aquatic Toxicity Testing Services

CHRONIC AQUATIC TOXICITY TEST REPORT

Permittee: Leominster WWTP NPDES # MA0100617
Report submitted to: 436 Mechanic Street
Leominster, MA 01453
Sample ID: Effluent
Test Month/Year: December 2021
NEB Proj # 44644

Test Type / Method: *Ceriodaphnia dubia* Modified Chronic Static-Renewal Freshwater
Test Method 1002.0; EPA 821-R-02-013

Effluent Sample Dates: #1 12/14-15/21 #2 12/16-17/21 #3 12/19-20/21

Test Start Date: 12/15/21

Results Summary

Your results were as follows:

Passed all permit limits

Acute Test Results

Species	LC50	A-NOEC	Permit Limit	Pass / Fail
<i>Ceriodaphnia dubia</i>	>100%	100%	≥ 100%	Pass

Chronic Test Results

Species	C-NOEC	C-LOEC	IC25	Permit Limit	Pass/Fail
<i>Ceriodaphnia dubia</i>	100%	>100%	>100%	≥ 43.5%	Pass

Data Qualifiers affecting this test:

This test is considered to be conditionally valid. See "Results Discussion" on *Ceriodaphnia* Test Results page for explanation.

Certifications & Approvals: NH ELAP (2071), NJ DEP (CT405)

This report shall not be reproduced, except in its entirety, without approval of NEB. NEB is the sole authority for authorizing edits or modifications to the data contained in this report. NEB holds no responsibility for results and/or data that are not consistent with the original. Please contact the Lab Director, Kimberly Wills, at 860-643-9560 or kimberly.wills@nebio.com if you have questions concerning these results.

DISCHARGE MONITORING REPORT (DMR)

DMR Mailing ZIP CODE: 01453

PERMITTEE NAME/ADDRESS (Include Facility Name/Location if Different)
NAME: LEOMINSTER W W T P
ADDRESS: 436 MECHANIC ST
LEOMINSTER, MA 01453
FACILITY: LEOMINSTER W W T P
LOCATION: 436 MECHANIC ST
LEOMINSTER, MA 01453
ATTN: ROBERT CHALIFOUX, PLANT MGR

MA0100617	001-B
PERMIT NUMBER	DISCHARGE NUMBER
MM/DD/YYYY	MM/DD/YYYY
03/31/2015	03/31/2015
MONITORING PERIOD	

No Discharge ☐

PARAMETER	QUANTITY OR LOADING			QUALITY OR CONCENTRATION			NO. EX	FREQUENCY OF ANALYSIS	SAMPLE TYPE
	VALUE	UNITS	VALUE	UNITS	VALUE	UNITS			
Nitrogen, ammonia total [as N]	*****	*****	*****	*****	0.19	mg/L	0	01/90	COMP24
00610 10 Effluent Gross Hardness, total [as CaCO3]	*****	*****	*****	*****	109	mg/L	0	01/90	COMP24
00900 10 Effluent Gross Nickel, total recoverable	*****	*****	*****	*****	0.002	mg/L	0	01/90	COMP24
01074 10 Effluent Gross Zinc, total recoverable	*****	*****	*****	*****	0.028	mg/L	0	01/90	COMP24
01094 10 Effluent Gross Aluminum, total recoverable	*****	*****	*****	*****	0.035	mg/L	0	01/90	COMP24
01104 10 Effluent Gross Cadmium, total recoverable	*****	*****	*****	*****	40.0001	mg/L	0	01/90	COMP24
01113 10 Effluent Gross Lead, total recoverable	*****	*****	*****	*****	40.0003	mg/L	0	01/90	COMP24
01114 10 Effluent Gross	*****	*****	*****	*****					

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure the collection and the truthful, accurate, and complete information submitted. Based on my knowledge and belief, I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER	TELEPHONE	DATE
Robert Chalifoux	978-533-5725	1/17/2022
TYPED OR PRINTED	AREA Code	NUMBER
	978-533-5725	MMDDYYYY

COMMENTS AND EXPLANATION OF ANY VIOLATIONS (Reference all attachments here)
TEST IN MARCH, JUNE, SEPT., DEC., REPORT BY April 30, Jul. 31, Oct 31, AND Jan.31.

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES)
DISCHARGE MONITORING REPORT (DMR)

PERMITTEE NAME/ADDRESS (Include Facility Name/Location if Different)

NAME: LEOMINSTER W W T P
ADDRESS: 436 MECHANIC ST
LEOMINSTER, MA 01453
FACILITY: LEOMINSTER W W T P
LOCATION: 436 MECHANIC ST
LEOMINSTER, MA 01453

ATTN: ROBERT CHALIFOUX, PLANT MGR

DMR Mailing ZIP CODE: 01453

MAJOR
(SUBR C)
EFFLUENT TOXICITY DATA
External Outfall

No Discharge ☐

MA0100617 PERMIT NUMBER	001-B DISCHARGE NUMBER
MM/DD/YYYY 09/04/2015	MM/DD/YYYY 02/24/2015
MONITORING PERIOD 12/11/2021 - 12/31/2021	

PARAMETER	QUANTITY OR LOADING			QUALITY OR CONCENTRATION			NO. EX	FREQUENCY OF ANALYSIS	SAMPLE TYPE
	VALUE	UNITS	VALUE	UNITS	VALUE	UNITS			
Copper, total recoverable	*****	*****	*****	*****	0.0111	mg/L	0	01/90	CE24
01119 10 Effluent Gross	*****	*****	*****	*****	Req. Mon. DAILY MX *****	mg/L		Quarterly	COMP24
LC50 Static 48Hr Acute Ceriodaphnia	*****	*****	*****	*****	*****	%	0	01/90	CE24
TAA3B 10 Effluent Gross	*****	*****	*****	*****	*****	%		Four per Year	COMP24
Noel Statre 7Day Chronic Ceriodaphnia	*****	*****	*****	*****	*****	%	0	01/90	CE24
TBP3B 10 Effluent Gross	*****	*****	*****	*****	*****	%		Quarterly	COMP24

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER <i>Robert Chalifoux</i>	SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT	TELEPHONE	DATE
TYPED OR PRINTED		978-535-5520	1/17/2022
		AREA Code NUMBER	MMDDYYYY

COMMENTS AND EXPLANATION OF ANY VIOLATIONS (Reference all attachments here)
TEST IN MARCH, JUNE, SEPT., DEC., REPORT BY april 30, jul. 31, oct 31, AND Jan.31.

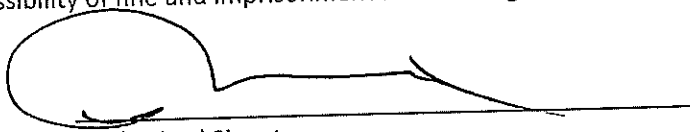
Test Report Certification

Permittee name: Leominster WWTP Permit number: MA0100617
Client sample ID: Effluent Test Start Date: 12/15/21

Whole Effluent Toxicity Test Report Certification (Permittee)

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Executed on: 1-18-2022
(Date)


Authorized Signature

Robert Chaloux Project Manager
Print or Type Name and Title

City of Leominster MA
Print or Type the Permittee's Name

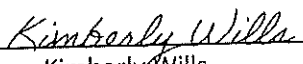
MA0100617
Print or Type the NPDES Permit Number

Whole Effluent Toxicity Test Report Certification (Bioassay Laboratory)

The results reported relate only to the samples submitted as received

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Executed on: 1/13/22
(Date)


Kimberly Wills
Laboratory Director
New England Bioassay Inc.

General Test Conditions

Permittee name: Leominster WWTP Permit number: MA0100617
Client sample ID: Effluent Test Start Date: 12/15/21

Sample Collection Information

Effluent #1 Dates/Times: 12/14-15/21 @ 0904-0820 Receiving Water #1 Date/Time: 12/15/21 @ 0848
Effluent #2 Dates/Times: 12/16-17/21 @ 0931-0844 Receiving Water #2 Date/Time: 12/17/21 @ 0825
Effluent #3 Dates/Times: 12/19-20/21 @ 1315-0930 Receiving Water #3 Date/Time: 12/20/21 @ 0935

Were a minimum of three samples collected? Yes ☒ No ☐ *(see note below)
Were samples used within the first 36 hours of collection? Yes ☒ No ☐ * (see note below)

* sample collection note:

Test Conditions

Permittee's Receiving Water: Nashua River
• Dilution water: Laboratory synthetic soft water (hardness 45 - 55 mg/L CaCO₃)
• Control water: Receiving water collected at a point immediately upstream of or away from the discharge
Effluent concentrations tested: 0%, 6.25%, 12.5%, 25%, 43.5%, 50%, 100%
Was effluent salinity adjusted? No ☒ Yes ☐ with Instant Ocean sea salts to _____ ppt
Dechlorination procedures: Chlorine is measured using 4500 CL-G DPD Colorimetric Method
• Dechlorination was not required

TRC results and further information about aeration of samples can be found attached in "sample receipt chemistry"

Reference Toxicant Data

Ceriodaphnia dubia

Date: 12/1/21
Toxicant: Sodium chloride
Dilution Water: NEB CTRMH
Organism Source: NEB
Reproduction IC25: 0.94 g/L
Results within range Yes ☒ No ☐

Ceriodaphnia dubia Test Results

Permittee name: Leominster WWTP Permit number: MA0100617
 Client sample ID: Effluent Test Dates: 12/15/21 - 12/23/21

Test Acceptability Criteria

Lab Diluent Survival: 70 % * Mean Lab Diluent Reproduction: 16.3 young per female
 River Control Survival: 90 % Mean River Control Reproduction: 23.7 young per female
 Thiosulfate Control Survival: N/A % Mean Thiosulfate Control Reproduction: N/A young per female
 Presence of an asterisk (*) indicates EPA criteria was not met, see explanation in the "Results Discussion" section at the bottom of the following page.

Test Results

		Permit Limit	Test Result	Pass/Fail Status
Acute Data	48 hr LC50	≥ 100%	>100%	Pass
	48 hr NOEC		100%	
	TUa			
Chronic Data	Chronic LC50		>100%	
	Survival C-NOEC		100%	
	Survival C-LOEC		>100%	
	Reproduction C-NOEC		100%	
	Reproduction C-LOEC		>100%	
	Reproduction IC25		>100%	
	Reproduction IC50		>100%	
	Reportable C-NOEC	≥ 43.5%	100%	Pass
	Reportable C-LOEC		>100%	
	MATC		>100%	
	TUc			

Presence of an asterisk (*) indicates qualified data, see explanation in the "Results Discussion" section at the bottom of the following page.

Test Variability

- Reproduction PMSD: 24.4% Upper & Lower EPA bounds: 13 - 47% ☐ Low ☒ Within bounds ☐ High
- ☐ PMSD exceeds upper bounds. Test results are highly variable and may not be sensitive enough to determine the presence of toxicity at the permit limit concentration (PLC)
- ☒ The PMSD falls within the upper (47%) and lower (13%) bounds. Results are reportable.
- ☐ PMSD falls below the lower bound test variability criterion. The test is very sensitive. The relative percent difference (RPD) between the control and each treatment was calculated and compared to the lower bound.
- ☐ The RPD values for all concentrations fall below the lower bound. Any differences observed in this test are considered statistically insignificant.
- ☐ Some of the concentrations that were flagged as statistically significant have RPD values that fall below the lower bound. Any differences observed in these concentrations will not be considered statistically significantly decreased from the control.
- ☐ No statistically significant reductions were observed in this test.

***Ceriodaphnia dubia* Test Results**

Permittee name: Leominster WWTP Permit number: MA0100617
Client sample ID: Effluent Test Dates: 12/15/21 - 12/23/21

Concentration - Response Evaluation

Survival: #12 No significant effects at any test concentration with a flat concentration-response curve. Test concentrations performed very similarly to dilution control.

Reproduction: #12 No significant effects at any test concentration with a relatively flat concentration-response curve. Test concentrations performed both above and below (but similarly to) the dilution control.

The concentration - response relationship was reviewed and the following determination was made:

Survival	Reproduction	
<u>X</u>	<u>X</u>	Results are reliable and reportable
<u> </u>	<u> </u>	Results are anomalous (see explanation below)
<u> </u>	<u> </u>	Results are inconclusive - retest (see explanation below)

Results Discussion (if applicable):

Please note that survival in the laboratory water diluent was 70% at test completion which was below the EPA acceptability survival criterion of $\geq 80\%$. Survival of organisms in all effluent concentrations mixed with the laboratory water showed no negative effects with $\geq 80\%$ survival at test completion. Additionally, reproduction in all effluent concentrations was significantly higher than in the laboratory water control. NEB statistically compared survival and reproduction in the test concentrations with survival and reproduction in the receiving water control (Nashua River) which met all EPA acceptability criteria. No reduction in survival or reproduction was measured in any effluent concentration (6.25%, 12.5%, 25%, 43.5%, 50%, and 100%) when compared with the receiving water control. Based on the performance of the organisms in the receiving water control and in all the effluent concentrations, especially the high survival and reproduction numbers in the 43.5%, 50%, and 100% effluent concentrations, we are considering the *Ceriodaphnia* test to be conditionally valid and are reporting the C-NOEC as 100% effluent.

ATTACHMENT E
LOCAL LIMITS REASSESMENT
SEPTEMBER 19, 2014



September 19, 2014

Mr. Jay Pimpare
EPA Region 1 Pretreatment Coordinator
5 Post Office Square, Suite 100
Boston, MA 02109

Re: City of Leominster Wastewater Treatment Facility
NPDES Permit No. MA0100617
Local Limits Reassessment

Dear Mr. Pimpare:

In accordance with 40 CFR 122.21 (j) (4), please find enclosed a reassessment of the current local limits for the City of Leominster's Wastewater Treatment Facility. Plant data used in this evaluation was for the 24-month period of July 1, 2012 to June 30, 2014.

To evaluate how the plant performs with respect to influent and effluent of pollutants, refer to Item V. in the attached technical data. Cadmium, copper, and zinc were detected in the influent of the plant. The average and maximum levels of all the metals tested in the plant influent are less than the maximum allowable industrial headwork loading (MAIHL) for each pollutant with the exception of copper. The governing inhibitory threshold used to establish the MAIHL for copper was the NPDES permit limit. The WWTF has periodically exceeded its NPDES copper permit limit. The WWTF has not experienced any inhibition of secondary or tertiary treatment and the facility has consistently met the ammonia limitations of the NPDES permit.

Concerning water quality, refer to Item VI. to compare effluent data to water quality criteria. Water quality criteria were established to protect aquatic life. The NPDES permit issued to Leominster requires quarterly bioassay toxicity testing. The bioassay test measures whether the wastewater effluent is toxic to aquatic life. The advantage of biological testing is to measure the effects of complex discharges of known and unknown constituents to determine the bioavailability of pollutants after discharge and to address pollutants which are inadequately analyzed through other means. Over the past 24-month period, the Leominster WWTF met or exceeded the acute and chronic toxicity limits specified in the NPDES permit. Although copper is present in the effluent, the levels do not appear to be exhibiting toxic effects.

Mr. Jay Pimpare
EPA – Region One
September 19, 2014
Page two

Regarding sludge quality, the liquid sludge was trucked daily to the East Fitchburg WWTP where it was incinerated. Item VIII compares Leominster's biosolids data to the sludge metals limits in effect at the East Fitchburg Wastewater Facility. The Leominster biosolids metals are well within the limitations. Beginning in August of 2014 all sludge is being disposed of at the Upper Blackstone WPAD by incineration.

In consideration of worker health and safety, there have been no reported incidents that have been a concern to worker health and safety and no reports of problems within the collection system.

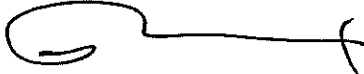
The attached plant data shows that levels of copper and zinc entering the plant sometimes exceed allowable industrial headworks loadings. The effluent data shows copper levels that are occasionally exceeding the NPDES permit limits.

Based upon the inspections, surveillance and monitoring procedures at the industries, violations of local limits are neither frequent nor significant. In assessing the wastewater treatment plant performance, the plant effluent exhibits no toxic effects on the receiving stream and shows no inhibition of secondary or tertiary treatment processes. We believe the sludge is well within the metals limitations for incineration at the Upper Blackstone WPAD facility and worker health and safety does not appear to be compromised. Based upon all these facts, it is our determination that the local limits that are in place are sufficient to regulate the three SIUs discharging to the Leominster facility. At this time, there is not a need to revise current local limits.

If you should have any questions or require additional information please feel free to call me at (978) 537-5720.

Sincerely,

Veolia Water North America



Robert Chalifoux
Project Manager

Cc: Christopher Knuth, City of Leominster
Roger Brooks, City of Leominster
DEP, Central Region Office

REASSESSMENT OF TECHNICALLY BASED LOCAL LIMITS (TBLLs)

POTW Name & Address: City of Leominster Wastewater Treatment Plant
436 Mechanic Street, Leominster, MA 01453

NPDES PERMIT #: MA0100617

Date EPA approved current TBLLs: 10/20/93

Date EPA approved current Sewer Use Ordinance: 09/93

TBLL reassessment prepared by Robert Chalifoux, VVNA Leominster

ITEM I.

In Column (1) list the conditions that existed when your current TBLLs were calculated. In Column (2), list current conditions or expected conditions at your POTW.

	Column (1) EXISTING TBLLs	Column (2) PRESENT CONDITIONS
POTW Flow (MGD)	6.10	5.70
SIU Flow (MGD)	0.61	0.040
Dilution Ratio or 7Q10 (from NPDES Permit)	22.88 MGD	21.16 MGD
Safety Factor	10%	N/A
Biosolids Disposal Method(s)	Incineration	Incineration

ITEM II.

EXISTING TBLLs

POLLUTANT	NUMERICAL LIMIT (mg/l)	POLLUTANT	NUMERICAL LIMIT (mg/l)
arsenic	0.87	nickel	2.52
beryllium	0.23	selenium	1.50
cadmium	0.03	silver	0.11
chromium (T)	1.10	thallium	1.71
copper	0.97	zinc	0.72
cyanide	0.63		
lead	1.30		
mercury	0.0007		

ITEM III.

Note how your existing TBLLs, listed in Item II., are allocated to your Significant Industrial Users (SIUs), i.e. uniform concentration, contributory flow, mass proportioning, other. Please specify by circling.

Existing TBLLs were allocated by the uniform concentration method.

ITEM IV.

Has your POTW experienced any upsets, inhibition, interference or pass-through from industrial sources since your existing TBLLs were calculated?

The POTW has experienced no upsets, inhibitions, interference or pass-through from industrial sources since the existing TBLLs were calculated.

Has your POTW violated any of its NPDES permit limits and/or toxicity test requirements?

The POTW has periodically violated its NPDES copper limit. The City was reissued the NPDES permit in June 2014. The new permit increased the effluent copper limit from 20 ug/l interim (monthly average) to 32.3 ug/l (monthly average). The daily maximum limit for copper was increased from 20 ug/l to 50.3 ug/l. The increase in the effluent limit should significantly reduce the amount of permit exceedances for copper.

ITEM V.

Using current POTW influent sampling data fill in Column (1). In Column (2), list your Maximum Allowable Industrial Headwork Loading (MAIHL) values used to derive your TBLLs listed in Item II. In addition, please note the Environmental Criteria for which each MAIHL value was established; i.e. water quality, sludge, NPDES etc.

Pollutant	Column (1)		Column (2)	
	Influent Data Analyses	MAIHL Values	Criteria	
	Maximum (lb/day)	Average (lb/day)	(lb/day)	
Arsenic	0.25	0.25	4.44	Sec. Inh.
Cadmium	0.05	0.04	0.15	WQC
Chromium	0.17	0.17	5.60	WQC
Copper	10.6	4.00	4.92	NPDES
Cyanide	0.25	0.25	3.22	WQC
Lead	0.12	0.12	6.59	Sec. Inh.
Mercury	0.0025	0.0025	0.0033	WQC
Nickel	0.12	0.12	12.83	Nitr. Inh.
Silver	0.25	0.25	0.54	WQC
Zinc	4.04	2.73	5.96	Nitr. Inh.

ITEM VI.

Using current POTW effluent sampling data, fill in Column (1). In Column (2A) list what the Water Quality Standards (Gold Book Criteria) were at the time your existing TBLLs were developed. List in Column (2B) current Water Quality Standards or "Chronic Gold Book" values for each pollutant multiplied by the dilution ratio used in your new/reissued NPDES permit.

Pollutant	Column (1)		Columns	
	Effluent Data Analyses	Water Quality Criteria (WQC)	(2A)	(2B)
	Maximum	Average	From TBLLs ¹	Today ²
	(ug/l)	(ug/l)	(ug/l)	(ug/l)(ug/l)
Arsenic	11	8	190	150
Cadmium ³	<1	<0.2	0.66	0.40 <u>0.17</u>
Chromium ⁴	<7	<7	11	11
Copper ³	35.0	13.2	22.2 ⁵	12.4
Cyanide	<10	<10	5.2	5.2
Lead ³	<5	<0.5	34	2.70 <u>1.45</u>
Mercury	<0.1	<0.1	.012	0.77
Nickel ³	2.8	2.1	87	73.2 <u>30.97</u>
Silver ³	<10	<10	1.2	1.81 ⁶
Zinc ³	110	35.3	59	166 <u>71.08</u>

NOTES

¹Hardness value used at the time that the TBLLs were calculated was 50 mg/l CaCO₃

²These figures were determined by multiplying the Chronic Water Quality Criteria (CCC)(as compiled by the EPA and published in the document entitled "National Recommended Water Quality

Criteria: 2002," EPA-822-R-02-047, November, 2002) by the Dilution ratio of 3.42 as specified in the new/reissued NPDES permit.

**Reference: Draft NPDES Permit No. MA0100617, March 2013, Page 22 of 34

Metal	<u>Total Recoverable Criteria</u>	
	Acute Criteria (CMC)(ug/l)	Chronic Criteria (CCC)(ug/l)
Cadmium	1.14	0.17
Lead	37.26	1.45
Nickel	278.57	30.97
Zinc	71.08	71.08

³These metals are hardness dependent. WQC adjusted at hardness of 35 mg/l as CaCO₃. The Permit Fact Sheet for the new/reissued NPDES permit reports in-stream test data from DEP, hardness = 35 mg/l as CaCO₃.

⁴The existing TBLLs used the chronic water quality criteria for

hexavalent chromium. To maintain consistency, the value for hexavalent chromium was used in calculating today's chronic water quality criteria.

⁵At the time that the existing TBLLs were calculated, the proposed NPDES permit limit for copper of 22.2 ug/l was used to calculate the allowable influent loading. An allowable influent load based on Water Quality Criteria for copper was not calculated. Current NPDES Permit limits for copper are 32.3 ug/l monthly average and 50.3 daily maximum.

⁶No Chronic Water Quality Criteria is listed for silver so the Acute value is used in the calculation instead.

ITEM VII.

In Column (1), identify all pollutants limited in your new/reissued NPDES permit. In Column (2), identify all pollutants that were limited in your old/expired NPDES permit.

Column (1) NEW PERMIT Limitations

<u>Pollutants</u>	<u>Average Monthly (ug/l)</u>	<u>Average Weekly (ug/l)</u>	<u>Maximum Daily (ug/l)</u>
BOD ₅ (11/1 - 4/30)	30,000	45,000	
CBOD ₅ (5/1 - 10/31)	15,000	15,000	
TSS (11/1 - 4/30)	30,000	45,000	
TSS (5/1 - 10/31)	20,000	20,000	
Phosphorus (4/1 - 10/31)	200		
Phosphorus (11/1-3/31)	1,000		2,000
NH ₃ N (6/1 - 10/31)	1,300		44.0
Total Chlorine Residual	25.0		50.3
Copper	32.3		

Column (2) PREVIOUS PERMIT Limitations

<u>Pollutants</u>	<u>Average Monthly (ug/l)</u>	<u>Average Weekly (ug/l)</u>	<u>Maximum Daily (ug/l)</u>
BOD ₅ (11/1 - 4/30)	30,000	45,000	
CBOD ₅ (5/1 - 10/31)	15,000	15,000	
TSS (11/1 - 4/30)	30,000	45,000	
TSS(5/1 - 10/31)	20,000	20,000	
Phosphorus (4/1 - 10/31)	200		
Phosphorus (11/1 - 3/31)	1,000		
NH ₃ N (6/1 - 10/31)	1,300		47.0
Total Chlorine Residual	26.0		17.5
Copper	12.1		20.0
Interim Copper	20.0		

ITEM VIII.

Using current POTW biosolids data, fill in Column (1). In Column (2A), list the biosolids criteria that was used at the time your existing TBLLs were calculated. If your POTW is planning on managing its biosolids differently, list in Column (2B) what your new biosolids criteria would be and method of disposal.

Pollutant	Column (1) Biosolids Data Analyses Average (mg/kg)	Columns	
		(2A) Biosolids Criteria *From TBLLs (mg/kg)	(2B) New (mg/kg)
Arsenic	<57.4	301.6	-----
Cadmium	<5.7	212.6	-----
Chromium	272	18,000	-----
Copper	545	-----	-----
Cyanide	<9.3	8,459	-----
Lead	35.7	-----	-----
Mercury	<0.6	38,000	-----
Nickel	16.2	-----	-----
Silver	<11.2	-----	-----
Zinc	1032	-----	-----
Molybdenum	NR	-----	-----
Selenium	<174	-----	-----
Beryllium	<5.7	-----	-----
Antimony	<55	-----	-----
Thallium	<55	-----	-----

*At the time that the existing TBLLs were calculated there were only proposed federal regulations applying to sewage sludge incineration. The regulations that would set concentration based limits of certain metals in the sludge before incineration were only in draft form; therefore biosolids criteria were not developed.

The Leominster WWTP disposed of their biosolids by trucking the liquid sludge daily to the East Fitchburg WWTP, where it was incinerated. At this time, Column 2A denotes the metals limited in the sludge before incineration as specified in the NPDES permit issued to the East Fitchburg WWTP. (NPDES Permit No. MA0100986)

As of August 2014 the Leominster WWTP is now disposing of all the sludge generated at the Leominster facility at the Upper Blackstone WPAD where it is dewatered and incinerated.

The daily concentrations in the sewage sludge fed to the Upper Blackstone WPAD incinerator shall not exceed the limits specified below in dry weight basis.

Beryllium	10 grams per 24 hour period
Mercury	3200 grams per 24 hour period

Maximum Daily

Arsenic	1.2×10^4 mg/kg
Cadmium	3.9×10^5 mg/kg
Chromium	1.0×10^6 mg/kg
Lead	1.4×10^5 mg/kg
Nickel	1.0×10^6 mg/kg